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Production Manager: Julia F. Hutchins
Production Assistants: Barbara Fichman
Maria F. McGuinness

Editorial Review: Staff, Publication Services

Executive Summary: Nancy Masterson
and Roberta Searles
Consumption Dianne R. Dunn

Petroleum: Henry Clarius
Leonard L. Fanelli

Natural Gas: Gordon W. Koelling

Resource Development: Daniel C. Adkins

Coal: Leonard Westerstrom

Electric Utilities: Vicki Moorhead
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Nuclear: Hal Steinberg

Price:
Petroleum Annie P. Whatley
Charles Riner

Natural Gas Gordon W. Koelling
Kenneth M. McClevey
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Electricity Dean Fennell
Tom F. Woods

International: Louis DeMouy
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The *Monthly Energy Review* presents current data and trends for production, consumption, stocks, imports, exports, and prices for the principal energy commodities in the United States. Also included are data on international production of crude oil, consumption of petroleum products, petroleum stocks, and production of electricity from nuclear powered facilities. This report is published to keep the public and other interested parties fully informed with respect to current energy production, consumption, stocks, and prices.

Publication of this report is in keeping with responsibilities given the Energy Information Administration in Public Law 95-91 (Section 205 (a)(2)) that states:

“The Administrator shall be responsible for carrying out a central, comprehensive, and unified energy data and information program which will collect, evaluate, assemble, analyze and disseminate data and information. . .”

From time-to-time an article that addresses some facet of energy is included in this publication. Feature articles that have appeared in previous issues are as follows:

Energy Consumption	March 1975
Nuclear Power	April 1975
The Price of Crude Oil.....	June 1975
U.S. Coal Resources and Reserves	July 1975
Propane, A National Energy Resource.....	September 1975
Short-Term Energy Supply and Demand Forecasting at FEA	October 1975
Curtailments of Natural Gas Service.....	January 1976

Home Heating Conservation Alternatives and the Solar Collector Industry	March 1976
Trends in United States Petroleum Imports.....	September 1976
Crude Oil Entitlements Program	January 1977
Motor Gasoline Supply and Demand	July 1977
Short-Term Petroleum Supply and Demand ...	May 1978
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Reduction in Natural Gas Requirements Due to Fuel Switching	December 1979
The Solar Collector Industry and Solar Energy	February 1980
Trends in the Installation of Energy Using Equipment in New Residential Buildings	March 1980
The Energy Information Administration’s Oil and Gas Reserves Program—The First Year’s Report	June 1980
Energy From Urban Waste.....	August 1980
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EIA Weekly Petroleum Data: Data Collection and Methods of Estimation.....	November 1980
The Department of Energy Disclosure Policy for Individually Identifiable Information Maintained by the Energy Information Administration	December 1980
Changes in 1981 Petroleum Data Series	May 1981
Information Services of the Energy Information Administration.....	September 1981
An Overview of Natural Gas Markets	December 1981

THE INTERSTATE AND INTRASTATE NATURAL GAS MARKETS

By
Richard P. O'Neill¹

Energy Information Administration

The Energy Information Administration (EIA), the Federal Energy Regulatory Commission (FERC), and trade associations, such as the American Gas Association, collect and disseminate substantial amounts of data about the natural gas industry. This is the second in a series of *Monthly Energy Review* articles intended to present background information on the natural gas markets. The purpose of this series is to synthesize and interpret some of the most important data collected and to present some new information. This article provides an introduction to regulatory aspects of natural gas markets and a discussion of historical trends in natural gas markets. The differences in the interstate and intrastate markets under the Natural Gas Policy Act (NGPA) also are presented, followed by a discussion of prices and price ceilings in each market. Finally, the prices, production, and reserves just prior to and following the NGPA in each market are compared and the findings are summarized.

Creation of Interstate and Intrastate Markets

The Natural Gas Act (NGA) of 1938 (Public Law 75-688) authorized the Federal Power Commission (now the Federal Energy Regulatory Commission, hereafter referred to as the Commission) to regulate prices charged by companies transporting gas across state lines for resale. The essential responsibilities of the Commission under this Act were ratemaking, i.e., setting interstate tariffs, and issuing certificates of public convenience and necessity. Thus, the NGA established separate markets for the distribution and sale

of natural gas: the interstate market to be regulated by the Commission, and an intrastate market within each state. Production of natural gas was specifically exempted from the Commission's jurisdiction.

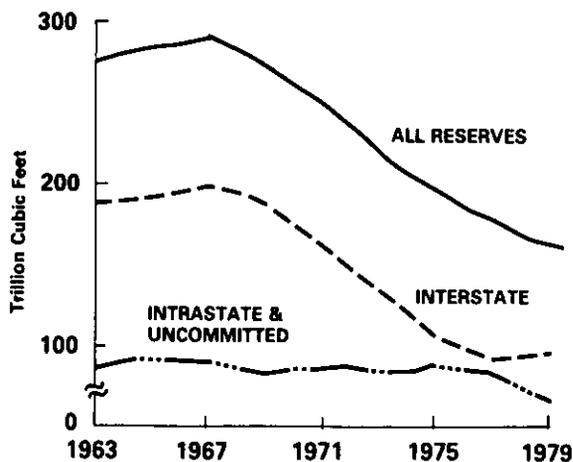
Initially, the Commission interpreted the NGA to mean that wellhead prices were exempt from its jurisdiction. However, in 1954 the Supreme Court (in *Phillips Petroleum Company vs Wisconsin* [347 U.S. 672 (1954)]) ruled that while the production and gathering of natural gas were exempt, the sales for resale in interstate commerce at the wellhead, field, or processing plant were not. The Commission was required to exercise jurisdiction over such sales, thereby regulating the wellhead price of interstate natural gas. Initially, the Commission attempted a well-by-well cost-of-service regulation of wellhead prices, but this approach created an unmanageable backlog of cases. In 1960, a generic area-wide cost-of-service regulation, called "area rate," was established. The area rate also became difficult to manage.

Patterns of Production and Reserves Under the Natural Gas Act

By 1968, after over a decade of trying different wellhead price regulations, signs of a natural gas shortage in the interstate market appeared. The reserves committed to the interstate market began to decline, but the intrastate and uncommitted reserves remained steady (Figure 1). From 1969 through 1976, reserve additions committed to the interstate market in the lower-48 states, excluding Federal waters of the Gulf of Mexico, oscillated around zero (Figure 2). (The Gulf of Mexico reserves in Federal waters are not available to most intrastate purchasers.) This market imbalance was partially masked by the fact that interstate pipeline deliveries rose through 1972, in part due to increases in imports and limited term purchases.

¹Acting Chief, Data Analysis and Forecasting Branch, Natural Gas Division, Office of Oil and Gas.

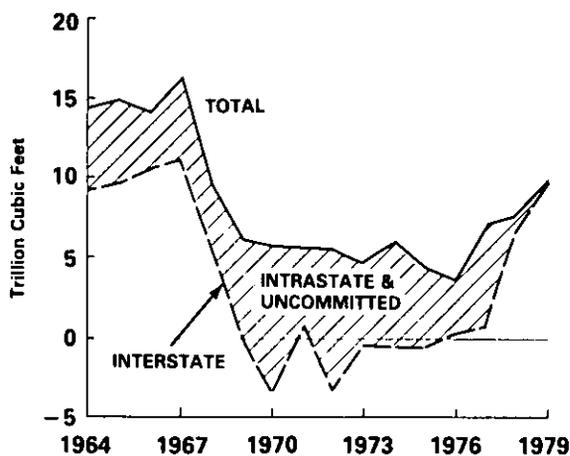
Figure 1. Reserves of Natural Gas in the Lower-48 States (Includes Federal Outer Continental Shelf)



Source: Reference [3], Table VII, pp. 115-116 and Table XIII-3 p. 125. Reference [2], Table 5.

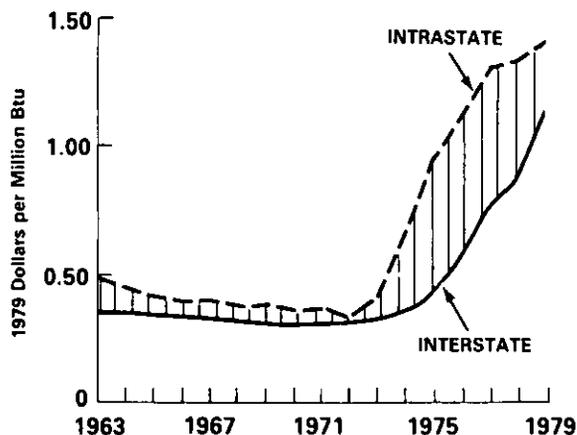
Through 1973, average real prices were relatively stable (Figure 3). While from 1973 to 1977 both interstate and intrastate average real prices increased dramatically, the intrastate average real price increased faster than the regulated interstate average real price (Figure 4). In 1975, because of interstate pipeline companies' inability to compete for new gas under existing wellhead price regulations, the onshore lower-48 states net reserve additions in the interstate market were negative (that is, downward revisions were larger than other reserve additions).

Figure 2. Reserve Additions (Including Revisions) of Natural Gas in the Lower-48 States, Excluding the Gulf of Mexico



Source: Reference [4].

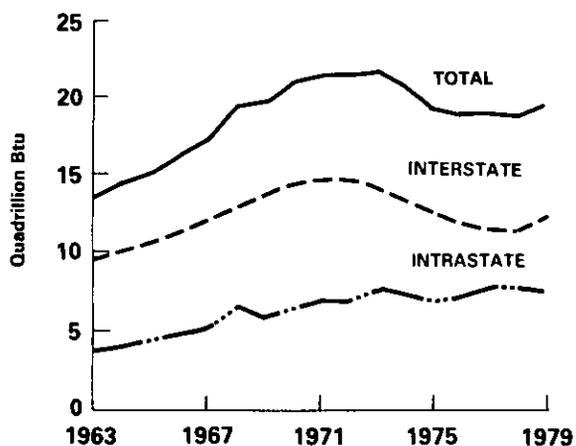
Figure 3. Average Pipeline Acquisition Price of Natural Gas



Source: Reference [4].

In July and November 1976, the Commission allowed a price of \$1.42 per thousand cubic feet (Mcf) plus 1 additional cent quarterly for natural gas from wells started after January 1, 1975. This price almost tripled the existing allowable rate for new interstate gas. In 1978 and 1979, the average price gap between the markets began to close, and the interstate production rose. From 1976 to 1979, net interstate reserve additions rose steadily (Figure 2). During this time, the average price for interstate purchases went from \$0.42 to \$1.14 per Mcf (Figure 3).

Figure 4. Pipeline Purchases of Natural Gas



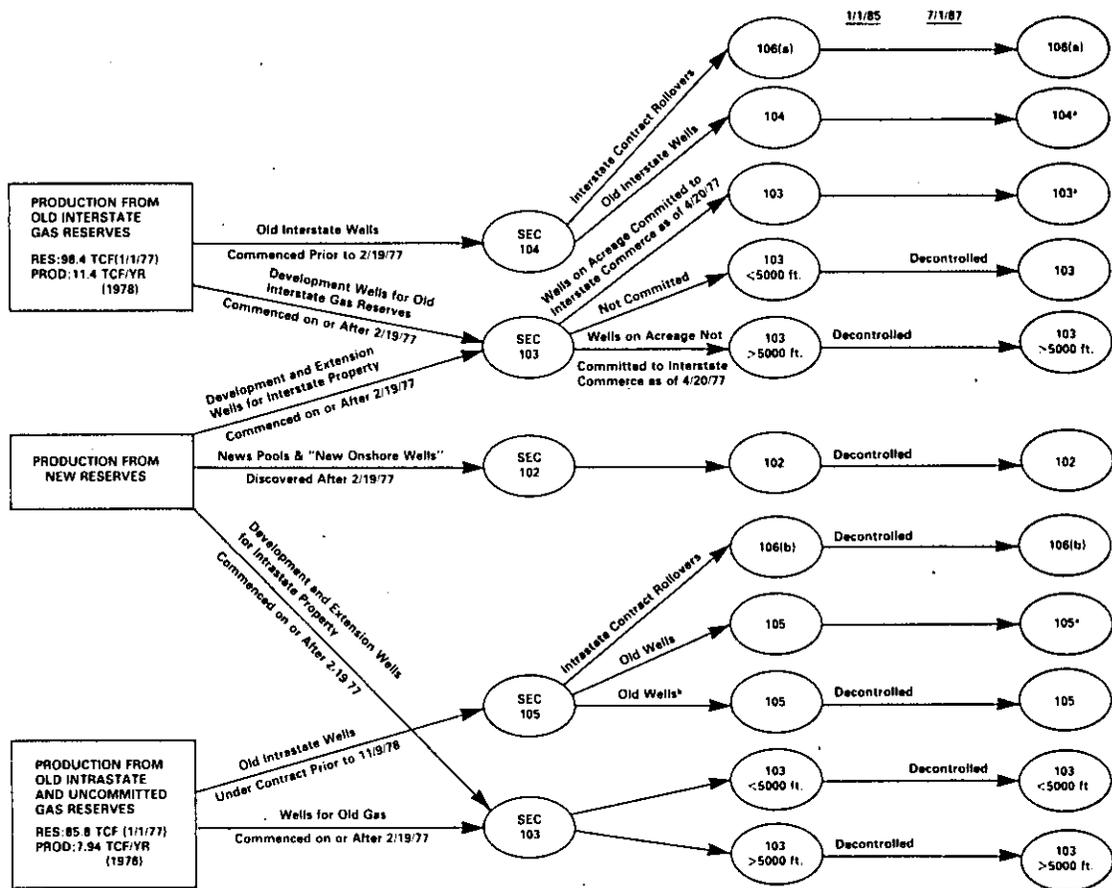
Source: Reference [4].

Prices Under the Natural Gas Policy Act

The Natural Gas Policy Act (NGPA) of 1978 (Public Law 95-621) extended Federal jurisdiction of natural gas to the intrastate market, eliminating some but not all of the market differences. Ceiling prices were established for all production of natural gas. For gas produced from new and old (pre-NGPA) reserves (Figure 5), ceiling prices depend on contract provisions and the characteristics of the well. If a well qualifies under more than one provision in Title I of the NGPA, the highest maximum ceiling price is applicable. Further, all price ceilings are given monthly inflation adjustments.

Natural gas dedicated to interstate commerce on or before the November 9, 1978, enactment of the NGPA, and all old interstate contracts that "roll over" (that is, replace existing contracts) have as a maximum lawful price the "just and reasonable" rate as established by the Commission (Section 104). The maximum lawful price of natural gas under old intrastate contracts (Section 105) is based on its contract price on November 9, 1978, and is, in general, much higher than for comparable old interstate gas. Gas production under Sections 104, 105, and 106 (old contracts that have "rolled over") constitute what is referred to as "old" gas.

Figure 5. Categories of Natural Gas by Selected Natural Gas Policy Act Title I Sections (NGPA Enacted November 9, 1978)



Note: Stripper wells and high cost gas omitted.

* Not decontrolled.

^b Price greater than \$1.00 per million Btu under a definite escalator clause.

Table 1. Volumes and Average Costs by Gas Type for 20 Largest Interstate Pipeline Companies, Early 1981

Type of Gas	Estimated Annual Volume (trillion cubic feet)	Percent of Purchases	Average Cost (dollars per thousand cubic feet)	Percent of Total Costs
Old Gas ^a	6.0	59	1.21	34
Post-NGPA Gas ^b	3.6	35	2.89	48
High Cost Gas ^c	0.6	6	6.49	18
Total	10.2	100	2.10	100

^aGas covered by NGPA Sections 104 and 106.

^bGas covered by NGPA Sections 102, 103, 108, and 109.

^cGas covered by NGPA Section 107.

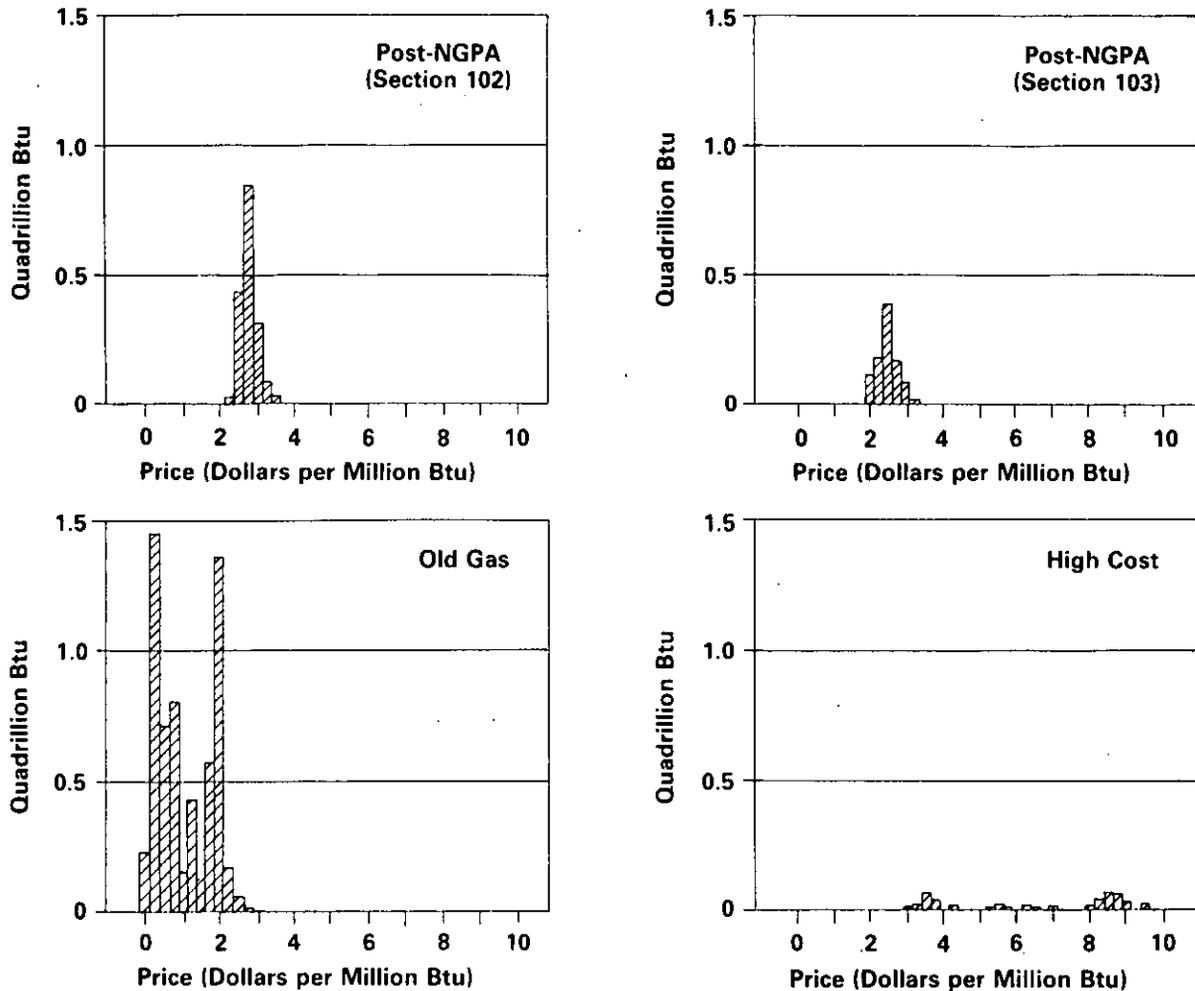
Note: Percentages add to 100 because of rounding.

Source: Reference [7].

Over half of all gas purchased from producers is old gas; most of the remainder is post-NGPA gas. Although only a small proportion of the volume is high cost gas, it has a relatively high share of the costs because of the high price. Over time, contracts for old gas will run out and the volumes purchased under more expensive categories can be expected to increase.

The average cost and the distribution of costs of natural gas differ greatly by category—high cost gas, on the average, costs over five times as much as old gas (Figure 6). The bimodal (two peaks) price distribution of old gas is the result of the 1976 price increases allowed by the Commission, which resulted in tripling the price that could be paid for interstate gas.

Figure 6. Interstate Gas Purchase Price Distribution by NGPA Title I Category, Early 1981



Source: Reference [7].

Conditions for lifting the price ceilings on January 1, 1985, vary greatly for interstate and intrastate gas. Old interstate gas is not to be decontrolled. Old intrastate contracts that "roll over" before 1985 are decontrolled if the price on January 1, 1985, exceeds \$1.00 (nominal) per million Btu. Old intrastate contracts that do not "roll over" by 1985 are decontrolled if the price established by a definite escalator clause in the contract exceeds \$1.00.

Almost all development and extension wells begun after February 19, 1977, qualify as new production (Section 103). New production from wells on acreage dedicated to interstate commerce before April 20, 1977, is not to be decontrolled. The price ceilings for new production from wells deeper than 5,000 feet are to be lifted on January 1, 1985, and from wells less than 5,000 feet in depth on July 1, 1987. Therefore, some reserves booked prior to 1977 can be produced under Section 103 ceilings and production will be decontrolled as early as 1985.

In order to qualify for new gas status under Section 102, an onshore well started after February 19, 1977, must produce from a new reservoir or be at least 2.5 miles from, or 1,000 feet deeper than, a marker well (that is, a well producing in commercial quantities any time between January 1, 1970, and April 20, 1977). Offshore gas qualifies for Section 102 if production is from new leases or reservoirs "discovered" on or after July 27, 1976. Gas in the latter category is not to be decontrolled. All other new gas is to be decontrolled on January 1, 1985. Gas production under Sections 102 and 103 will be referred to as "post-NGPA" gas.

Production from wells qualifying under Section 107 is given special treatment as "high cost gas" and is defined as gas produced:

- from wells started after February 19, 1977, and completed to produce from a depth greater than 15,000 feet;
- from geopressed brine;
- from coal seams;
- from Devonian shale; and/or
- under conditions determined by the Commission to present extraordinary risks or costs.

On November 1, 1979, gas from the first four categories was deregulated. On August 15, 1980, natural gas produced from tight formations (geologic formations where tight packing of the reservoir rock causes low production rates) was defined as high cost gas with a ceiling price set at 200 percent of the Section 103 price.

Title II of the NGPA, referred to as incremental pricing, contains provisions for allocating a portion of the costs of certain high priced natural gas directly to industrial users who buy gas in the interstate market. These costs, accumulated in a special set of accounts kept by the pipeline company, are passed on to "nonexempt" industrial users in the form of a surcharge, but only up to a ceiling—the price of an alternative fuel. Under the first phase of incremental pricing effective January 1, 1980, most large industrial boilers (using 300 Mcf or more per day in 1977) in the interstate market became nonexempt. The Commission had the authority both to establish the alternative fuel price limit and to propose additional users for inclusion as nonexempt. In December 1980, Congress rejected proposed regulations to extend the class of firms covered. Therefore, only industries with large boilers are subject to incremental pricing, and the Commission has established the regional price of high sulfur No. 6 fuel oil as the alternative fuel price.

The effect of incremental pricing is that the cost of natural gas to large industrial users is near the price of No. 6 fuel oil. To the extent that industrial users absorb some of the costs of high priced gas, the price paid by other consumers of gas is lower than it otherwise would be. Currently, the actual lowering of the price has been very small because the volume of nonexempt purchases is small compared to the total.

Interstate Purchases of Natural Gas

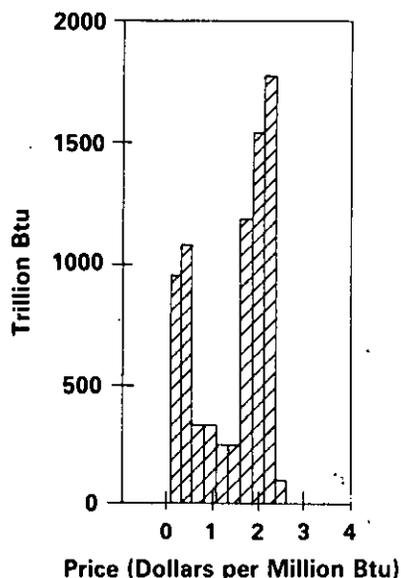
Since natural gas pipelines transport gas from producers to consumers, the price of gas to consumers depends on the prices paid by the particular pipeline companies serving a consuming area. Average prices for natural gas purchased by pipeline companies are determined by the existing contracts to purchase gas, not by the current market price for natural gas.

It is useful to explore the effects of existing contract patterns on natural gas prices and to assess the differences in costs reported by the various interstate pipeline companies based on Purchased Gas Adjustment (PGA) data submissions to the Commission for interim rate increases. The 20 largest interstate natural gas pipeline companies in the United States included in this analysis purchase about 10.2 trillion cubic feet from gas producers or about 90 percent of all interstate gas supplies (Table 1).

Intrastate Purchases of Natural Gas

An estimated 7.5 quadrillion Btu of natural gas were produced and sold in 1978 at an average price of \$1.34 per million Btu in the intrastate markets. Twenty-five percent of all sales was priced below \$0.50 per million Btu, 19 percent was priced above \$2.06, and only slightly more than 1 percent was priced above \$2.24 (Figure 7).

Figure 7. Price Distribution of Gas By Intrastate Purchases 1978



Source: Reference [4].

About two-thirds of all natural gas was sold to pipeline companies at an average price of \$1.60 per million Btu, while the average price of direct sales (including sales to electric utilities, refineries, and large industrial users) was about half that price (Table 2). Regionally, the Texas intrastate market accounted for approximately half of all intrastate production, while Louisiana accounted for almost one-quarter, and Oklahoma, 13 percent. Most of the remaining supply was in California, Kansas, Colorado, and New Mexico.

In Texas, 30 percent of the market was direct sales with an average price of \$0.60 per million Btu. The average pipeline company price (\$1.74 per million Btu) was almost triple the direct sales price. The same pattern of average prices was found in Louisiana where about half the production was direct

sales. This price gap is probably due in part to the earlier start years for many direct sales contracts (Table 3). For the remainder of the intrastate markets, the price gap is not as large, and in several states the pattern is reversed.

About 32 percent of all natural gas under old intrastate contracts will "roll over" by December 31, 1984. Most, if not all, intrastate natural gas under contracts that "roll over" will be decontrolled. Fifty-three percent (by 1978 estimated quantity) of the direct sales contract volume will "roll over" before January 1, 1985, while only 20 percent of the pipeline company sales contract volumes will "roll over" by 1985. Compared to direct sales purchasers who face the possibility of large price increases due to the renegotiation of "roll over" contracts, intrastate pipelines appear to be afforded more protection from price increases under the NGPA.

Interstate/Intrastate Comparison

The average price paid by direct sale customers (Table 4) was a major difference in the interstate and intrastate natural gas markets during November 1978, when the NGPA was enacted. Direct sales customers are generally large industrial users and electric utilities. As indicated in the previous section, the old intrastate contracts to direct sale customers "roll over" faster, and prices can be expected to escalate faster than sales to resellers (for example, distributors). Since old interstate contracts and their subsequent rollover contracts have lower price ceilings than old intrastate contracts and their subsequent rollover contracts, the direct sales price gap should narrow.

In 1979, 64 percent of post-NGPA and high cost gas was purchased by interstate pipeline companies. In 1980, this interstate share was 62 percent (Table 5).

For almost all individual states, interstate purchases of post-NGPA and high cost natural gas exceeded intrastate purchases (Table 6). The largest difference was in Louisiana, due mostly to Federal offshore production.

After accounting for the effects attributed to contract year, NGPA category, and state, a statistical analysis shows that the interstate price is roughly 16 cents per million Btu higher than the intrastate price (see Reference [4]). This price gap narrowed

Table 2. Estimated Annual 1978 Volume and Average Purchase Price for Natural Gas Under Intrastate Contracts

State	Pipeline Sales		Direct Sales		Total	
	Average Price (dollars per million Btu)	Quantity (trillion Btu)	Average Price (dollars per million Btu)	Quantity (trillion Btu)	Average Price (dollars per million Btu)	Quantity (trillion Btu)
Alabama	1.73	29	1.79	16	1.75	45
Arkansas	.66	78	.60	9	.65	87
California	.00	0	1.73	225	1.73	225
Colorado	1.38	137	1.18	6	1.37	143
Kansas	1.19	178	.86	7	1.18	185
Louisiana	1.65	822	.67	855	1.14	1,677
Mississippi	1.61	9	1.03	39	1.12	48
Montana	1.60	17	1.22	1	1.58	18
New Mexico	1.41	61	1.41	60	1.41	121
Ohio	1.75	45	2.05	7	1.80	52
Oklahoma	1.34	815	1.22	146	1.33	961
Pennsylvania	1.36	39	1.84	6	1.42	45
Texas	1.74	2,601	.60	1,100	1.43	3,701
Utah	1.28	21	1.51	4	1.32	25
West Virginia	.69	2	.92	5	.86	7
Wyoming	1.38	34	1.07	13	1.30	47
Other*	1.73	17	.98	131	1.07	148
All States	1.60	4,905	.81	2,630	1.34	7,535
(Percent of Total)	—	(65)	—	(35)	—	(100)

*Alaska, Florida, Illinois, Kentucky, Michigan, North Dakota, New York, and Tennessee.
Source: Reference [4].

Table 3. Sales Quantities and Average Prices in 1978 to Pipeline Companies and Direct Sales Purchaser by Contract Year in the Intrastate Markets

Contract Year	Direct Sales to							
	Pipeline Companies		Electric Utilities		Other		Total	
	Quantity (trillion Btu)	Price (dollars per million Btu)						
Pre-1970	1,039	1.03	763	.85	1,106	.36	2,908	.75
1970-1972	697	1.33	83	.67	133	.61	913	1.18
1973-1974	872	1.85	82	1.12	136	1.65	1,090	1.77
1975-1976	1,160	1.85	67	1.95	106	1.73	1,333	1.85
1977-1978	1,137	1.84	17	1.68	137	1.90	1,291	1.84
All Years	4,905	1.60	1,012	.95	1,618	.71	7,535	1.34
(Percent of Total)	(65)	—	(13)	—	(22)	—	(100)	—

Source: Reference [4].

Table 4. Average Price of Interstate and Intrastate Gas Sales, November 1978 (Dollars per Million Btu)

Type of Customer	Interstate Pipeline Price	Intrastate Pipeline Price*
Direct Sales	1.71	.91
Reseller	1.61	1.70

*Ten cents added as an average transportation charge.
Source: Reference [4].

Table 5. Estimated 1979 and 1980 Annual Production of Post-NGPA and High Cost Gas by Interstate and Intrastate Purchasers (Trillion Cubic Feet)

Type of Gas	1979		1980	
	Inter-state	Intra-state	Inter-state	Intra-state
Post-NGPA	2.39	1.33	3.80	2.33
High Cost	.19	.12	.31	.25
Total	2.58	1.45	4.16	2.58

Source: Reference [7].

Table 6. Estimated 1980 Production for Selected States of Post-NGPA and High Cost Natural Gas (Trillion Btu)

State	Post NGPA	High Cost
Louisiana		
Interstate	1.48	.10
Intrastate	.17	.10
Total	1.65	.20
New Mexico		
Interstate	.32	*
Intrastate	.13	.01
Total	.45	.01
Ohio		
Interstate	.05	.07
Intrastate	.10	.04
Total	.15	.11
Texas		
Interstate	1.02	.06
Intrastate	1.15	.09
Total	2.17	.15
West Virginia		
Interstate	.14	.04
Intrastate	.08	*
Total	.22	.04
Kansas		
Interstate	.08	*
Intrastate	.05	*
Total	.13	*
Oklahoma		
Interstate	.32	.05
Intrastate	.38	.01
Total	.70	.06
Pennsylvania		
Interstate	.04	*
Intrastate	.05	*
Total	.09	*

* Zero or rounds to zero.

Source: Appendix A of Reference [7].

from 1979 to 1980, and is consistent with the hypothesis that the price differences between the interstate and intrastate markets are lessening.

In the longer term, an important measure of the state of the natural gas market is the level of proved reserves. Since 1976, year-end reserves have declined at a rate of about 1 percent per year (Table 7). The regions experiencing a decline are those with large intrastate markets. While the interstate reserves commitment increased from 1976 to 1980, the intrastate markets experienced an average yearly reserve decline of about 4 percent. Since intrastate purchasers must purchase gas within their state, their access to natural gas could become increasingly difficult if the state's reserves are declining.

The three states where the largest interstate and intrastate markets exist are Texas, Louisiana, and Oklahoma. In Texas, the reserves committed to both markets declined at about 5 percent per year. In Louisiana, reserves committed to the intrastate

market have fallen at the rate of 13 percent annually with the interstate commitment falling by only 3 percent annually. In Oklahoma, the intrastate reserve commitment has declined at an 8 percent rate, while the commitment to the interstate pipelines has risen at an annual rate of 4 percent. It also appears that the intrastate purchasers in Oklahoma may have sold some of their reserves to the interstate market during 1980.

Of the three large state markets, the Louisiana intrastate purchasers appear to be losing their reserve base because of the decline of reserves in general and because of more aggressive purchases by the interstate pipeline companies. In Texas, the balance does not appear to have shifted radically. In Oklahoma, intrastate production may be constrained by demand.

Table 7. Estimated Reserves and Production for Interstate and Intrastate Markets in Texas, Louisiana, and Oklahoma (Trillion Cubic Feet of Dry Gas)

Area	1976	1977	1978	1979	1980
Texas Onshore					
Interstate					
Reserves	17.7	15.8	15.7	15.5	14.9
Production	2.6	2.4	2.1	2.2	2.2
Intrastate					
Reserves	37.1	35.1	33.5	29.6	27.9
Production	3.2	3.9	3.8	3.7	3.3
Total					
Reserves	54.8	51.1	49.2	45.1	42.8
Production	5.8	6.3	5.9	5.9	5.6
Louisiana Onshore					
Interstate					
Reserves	12.2	9.4	8.4	8.1	8.0
Production	1.7	1.4	1.3	1.1	1.1
Intrastate					
Reserves	11.4	12.3	12.6	8.7	8.1
Production	1.1	1.3	1.3	1.2	1.1
Total					
Reserves	23.6	21.7	21.0	16.8	16.1
Production	2.8	2.7	2.6	2.3	2.2
Oklahoma					
Interstate					
Reserves	8.0	7.5	7.9	8.3	9.3
Production	.9	.9	.9	.9	1.0
Intrastate					
Reserves	6.3	6.4	6.5	5.5	3.8
Production	.7	.8	.8	.6	.6
Total					
Reserves	14.3	13.9	14.4	13.8	13.1
Production	1.6	1.7	1.7	1.6	1.5
Lower-48 States (Excluding Offshore)					
Interstate					
Reserves	72.8	69.0	69.3	71.2	74.5
Production	7.3	7.1	6.8	6.9	6.9
Intrastate					
Reserves	67.8	65.5	65.5	56.7	52.3
Production	7.5	7.1	7.0	6.6	6.1
Total					
Reserves	140.6	134.5	134.8	127.9	126.8
Production	14.8	14.2	13.8	13.5	13.0

Source: Reference [7].

Summary

After over two decades of cost-based wellhead price regulation of the interstate natural gas market which inhibited interstate purchasers' access to gas, Congress passed the Natural Gas Policy Act of 1978. Almost all post-NGPA gas purchases (including intrastate) were placed under a new set of price controls by the NGPA. The NPGA will eventually decontrol all natural gas production, but on vastly different timetables for the interstate and intrastate purchasers.

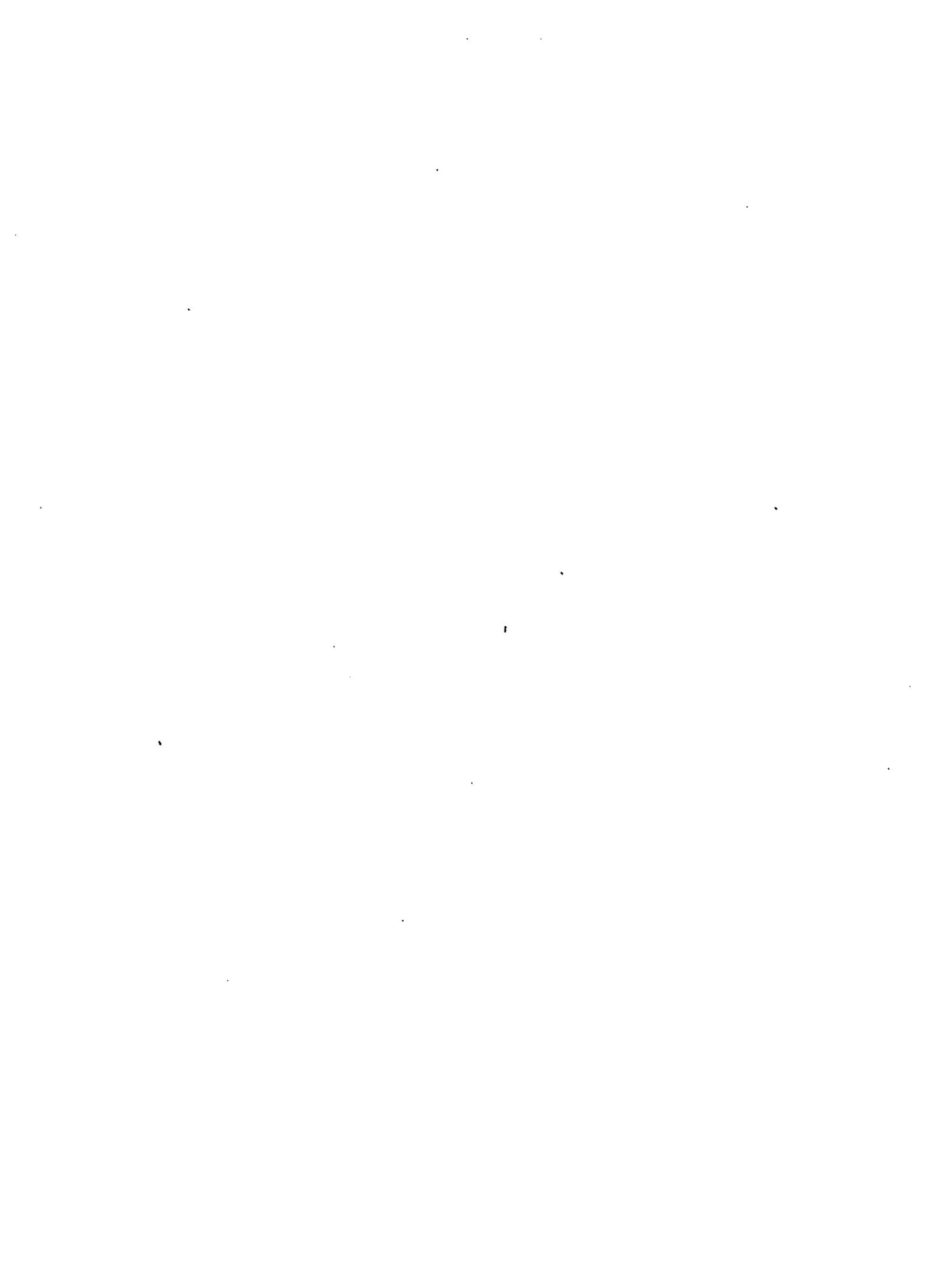
There are several conclusions that can be reached. In general, there is (and under the NGPA will remain) a significant difference in the price ceilings for old gas in the interstate and intrastate markets. All old interstate gas is governed by "just and reasonable" prices under the NGA. Old intrastate gas has higher price ceilings and should experience faster price growth. In 1985, old interstate gas, which remains under controls indefinitely, will remain at low prices while over one-third of old intrastate gas will have no price ceiling. Further, the old intrastate gas remaining under price ceilings in 1985 will have relatively high ceilings.

Even though there seems to have been an adjustment process due to low ceiling prices and shortages prior to the NGPA in the interstate market, the average prices paid by interstate purchasers in a given state under each section of Title I appear to be slightly higher than the average price paid by intrastate purchasers. Under the NGPA, the volume and price differences for new purchases between the interstate and intrastate markets are lessening, although the reserve base in the major intrastate markets is declining.

Two important questions not addressed in this article are the future regional impacts of interstate and intrastate market differences, and the price increases when gas is deregulated. Since the intrastate markets are concentrated in Texas, Louisiana, and Oklahoma, and the interstate end-user markets are concentrated in the Midwest and east and west coasts, the potential regional impacts of various market differences on the consumer could be different. These two problems are currently under study by the Energy Information Administration and will be the subject of reports to be published in early 1982.

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Overview

Production

Energy production during the first 10 months of 1981 totaled 53.4 quadrillion Btu, 0.6 percent* below the level during the same period of 1980. Decreases in production occurred for petroleum (0.5 percent) and coal (3.3 percent). Natural gas production increased by 1.7 percent, and other forms of energy production combined were up by 0.5 percent.

Consumption

During the first 10 months of 1981, energy consumption totaled 61.3 quadrillion Btu, a 1.9 percent decrease compared to con-

sumption during the same period of 1980. Decreases in the consumption of petroleum (5.8 percent) and natural gas (0.6 percent) contributed to the overall decline in energy consumption during this period. Coal consumption increased by 4.2 percent and consumption of other energy sources combined increased 0.9 percent over the level during the first 10 months of 1980.

Imports

Net imports of energy during the first 10 months of 1981 totaled 8.0 quadrillion Btu, 20.8 percent below the level for the first 10 months of 1980. By energy source, the decreases in net imports were petroleum (14.5 percent) and natural gas (12.6 percent). Electricity and coal coke combined increased 13.9 percent. Net exports of coal during the first 10 months of 1981 were 20.6 percent higher than the level during the same period of 1980.

*All percentage increases/decreases are on a daily rate basis to remove impact of 1980 leap year.

ENERGY SUMMARY (Quadrillion (10¹⁵) Btu)

	October			Cumulative January through October				
	1981	1980	Percent Change	1981	1981 Daily Rate	1980	1980 Daily Rate	Percent Change*
Total Production	5.674	5.431	+4.5	53.379	0.176	53.861	0.177	-0.6
Petroleum ¹	1.724	1.718	+0.3	16.970	0.056	17.109	0.056	-0.5
Natural Gas	1.644	1.615	+1.8	16.594	0.055	16.376	0.054	+1.7
Coal	1.883	1.634	+15.2	14.998	0.049	15.568	0.051	-3.3
Other ²	0.424	0.464	-8.6	4.817	0.016	4.808	0.016	+0.5
Total Consumption	5.948	6.168	-3.6	61.312	0.202	62.678	0.206	-1.9
Petroleum ³	2.619	2.880	-9.1	26.588	0.087	28.319	0.093	-5.8
Natural Gas	1.593	1.574	+1.2	16.317	0.544	16.473	0.054	-0.6
Coal	1.297	1.238	+4.8	13.428	0.044	12.935	0.042	+4.2
Other ⁴	0.439	0.475	-7.7	4.980	0.016	4.952	0.016	+0.9
Net Imports	0.664	0.860	-22.8	8.039	0.026	10.179	0.033	-20.8
Petroleum ⁵	0.904	1.027	-12.0	9.572	0.031	11.230	0.037	-14.5
Natural Gas	0.076	0.073	+4.3	0.685	0.002	0.787	0.003	-12.6
Coal	(0.331)	(0.251)	(+31.7)	(2.382)	(0.008)	(1.982)	(0.006)	(+20.6)
Other ⁶	0.015	0.012	+30.5	0.163	0.001	0.144	0.000	+13.9

Totals may not equal sum of components due to independent rounding and the use of preliminary conversion factors.

Parentheses indicate exports are greater than imports.

* Based on daily rates in order to remove the influence of leap year.

¹ Includes crude oil, lease condensate, and natural gas plant liquids.

² Includes hydroelectric, nuclear, and geothermal power and electricity produced from wood and waste.

³ Includes refined petroleum products and natural gas plant liquids.

⁴ Includes hydroelectric, nuclear, and geothermal power, electricity produced from wood and waste, and net imports of electricity and coal coke.

⁵ Includes crude oil, lease condensate, refined petroleum products, unfinished oils, natural gasoline, plant condensate, and imports of crude oil for the Strategic Petroleum Reserve.

⁶ Includes net imports of electricity and coal coke.

Executive Summary

Energy Summary

	Energy Production ¹	Energy Consumption ²	Energy Imports ³	Energy Exports ⁴
Quadrillion (10 ¹⁵) Btu				
1973 TOTAL	62.433	74.609	14.732	2.073
1974 TOTAL	61.229	72.759	14.417	2.241
1975 TOTAL	60.059	70.707	14.113	2.389
1976 TOTAL	60.091	74.510	16.838	2.213
1977 TOTAL	60.293	76.332	20.092	2.097
1978 TOTAL	61.204	78.150	19.262	1.952
1979 TOTAL	63.907	78.968	19.622	2.900
1980				
January	5.598	7.423	1.652	0.227
February	5.246	7.018	1.459	0.208
March	5.634	6.906	1.489	0.266
April	5.396	6.021	1.320	0.295
May	5.521	5.831	1.277	0.346
June	5.335	5.709	1.288	0.365
July	5.185	5.957	1.174	0.328
August	5.276	5.847	1.188	0.319
September	5.240	5.798	1.160	0.335
October	5.431	6.168	1.237	0.376
November	5.275	6.288	1.227	0.347
December	5.612	7.235	1.359	0.343
TOTAL	64.748	76.201	15.830	3.756
1981				
January	5.446	7.426	1.339	0.267
February	5.195	6.346	1.205	0.282
March	5.667	6.458	1.184	0.377
April	4.601	5.737	1.098	0.331
May	4.723	5.786	1.115	0.281
June	R5.233	R5.847	R1.034	R0.252
July	R5.547	R6.115	R1.135	0.400
August	R5.745	5.976	R1.123	0.429
September	R5.549	R5.673	1.179	0.420
October	5.674	5.948	1.141	0.477
TOTAL (Year-to-date)	53.379	61.312	11.554	3.515

Geographic coverage: the 50 United States and District of Columbia.

Totals may not equal sum of components due to independent rounding and the use of preliminary conversion factors after 1979.

¹See Explanatory Note 1.

²See Explanatory Note 2.

³See Explanatory Note 3.

⁴See Explanatory Note 4.

R = Revised data.

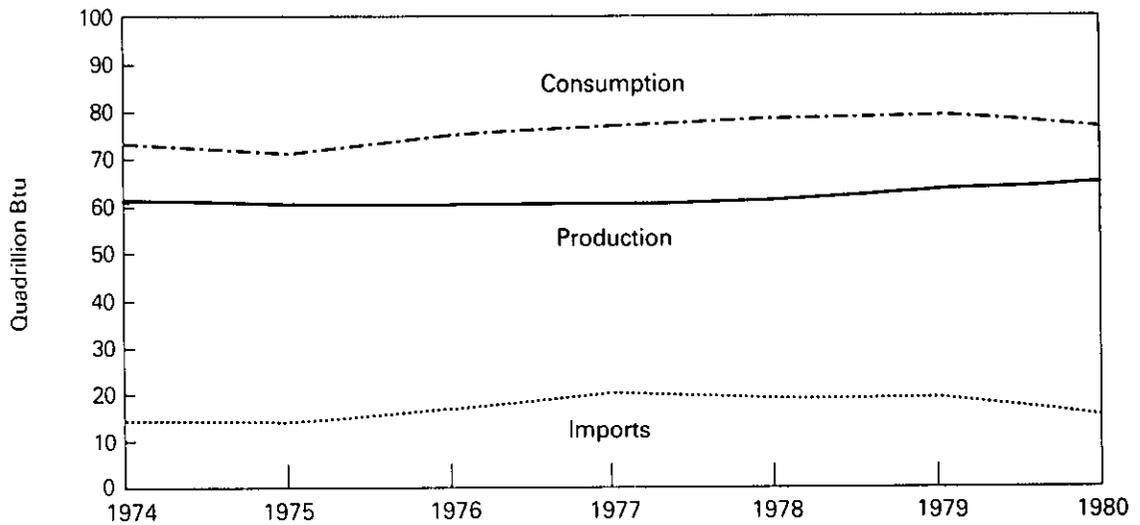
Note: The sum of domestic energy production and net imports of energy does not equal domestic energy consumption. The difference is attributed to stock changes; losses and gains in conversion, transportation, and distribution; the addition of blending compounds; shipments of anthracite to U.S. Armed Forces in Europe; and adjustments to account for discrepancies between reporting systems.

Source: •Energy Information Administration calculations based on data appearing elsewhere in this publication.

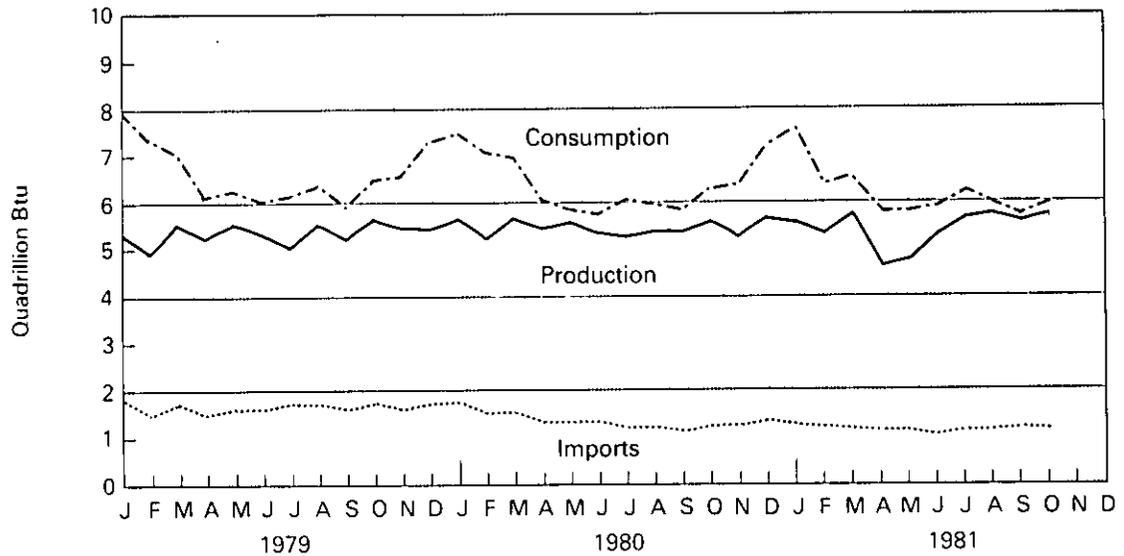
Executive Summary

Energy Summary

Yearly



Monthly



Executive Summary

Production of Energy by Type

		Coal ¹	Crude Oil ²	NGPL ³	Natural Gas (Dry)	Hydro-electric Power ⁴	Nuclear Electric Power	Other ⁵	Total Energy Produced	Yearly Cumulative Energy Produced
Quadrillion (10 ¹⁵) Btu										
1973	TOTAL	14.366	19.493	2.569	22.187	2.861	0.910	0.046	62.433	
1974	TOTAL	14.468	18.575	2.471	21.210	3.177	1.272	0.056	61.229	
1975	TOTAL	15.189	17.729	2.374	19.640	3.155	1.900	0.072	60.059	
1976	TOTAL	15.853	17.262	2.327	19.480	2.976	2.111	0.081	60.091	
1977	TOTAL	15.829	17.454	2.327	19.565	2.333	2.702	0.082	60.293	
1978	TOTAL	15.037	18.434	2.245	19.485	2.958	2.977	0.068	61.204	
1979	TOTAL	17.651	18.104	2.286	20.076	2.954	2.748	0.089	63.907	
1980	January	1.573	1.555	0.202	1.782	0.267	0.213	0.008	5.598	5.598
	February	1.481	1.463	0.189	1.672	0.226	0.208	0.008	5.246	10.845
	March	1.603	1.566	0.192	1.791	0.257	0.216	0.008	5.634	16.478
	April	1.574	1.512	0.193	1.635	0.272	0.202	0.008	5.396	21.874
	May	1.605	1.553	0.191	1.659	0.305	0.198	0.010	5.521	27.395
	June	1.612	1.487	0.185	1.552	0.292	0.197	0.009	5.335	32.730
	July	1.385	1.538	0.186	1.582	0.258	0.226	0.010	5.185	37.915
	August	1.546	1.514	0.186	1.542	0.216	0.262	0.011	5.276	43.191
	September	1.555	1.500	0.179	1.547	0.195	0.254	0.010	5.240	48.430
	October	1.634	1.535	0.184	1.615	0.189 ^{2,415}	0.264 ^{2,240}	0.011	5.431	53.861
	November	1.551	1.479	0.186	1.619	0.203	0.226	0.011	5.275	59.137
	December	1.630	1.548	0.191	1.759	0.235	0.238	0.011	5.612	64.748
	TOTAL	18.749	18.250	2.263	19.754	2.913	2.704	0.114	64.748	
1981	January	1.482	1.534	0.196	1.735	0.236	0.252	0.011	5.446	5.446
	February	1.593	1.396	0.179	1.561	0.223	0.233	0.010	5.195	10.640
	March	1.750	1.546	0.194	1.711	0.218	0.237	0.011	5.667	16.308
	April	0.835	1.486	0.184	1.643	0.219	0.222	0.010	4.601	20.908
	May	0.841	1.528	0.190	1.687	0.255	0.212	0.010	4.723	25.631
	June	1.396	R1.499	R0.187	1.634	0.278	0.228	0.010	R5.233	R30.864
	July	1.654	R1.514	R0.190	1.664	0.265	0.249	0.011	R5.547	R36.411
	August	1.766	R1.542	R0.194	R1.713	0.228	0.290	0.011	R5.745	R42.156
	September	1.798	1.500	0.186	R1.603	0.188	0.263	0.011	R5.549	R47.705
	October	1.863	1.529	0.194	1.644	0.191	0.221	0.011	5.674	53.379
	TOTAL (Year-to-date)	14.998	15.076	1.894	16.594	2.303	2.407	0.107	53.379	

Geographic coverage: the 50 United States and District of Columbia.

Totals may not equal sum of components due to independent rounding and the use of preliminary conversion factors after 1979.

¹Includes bituminous coal, lignite, and anthracite.

²Includes lease condensate.

³Natural gas plant liquids.

⁴Includes industrial and utility production of hydropower.

⁵Includes geothermal power and electricity produced from wood and waste.

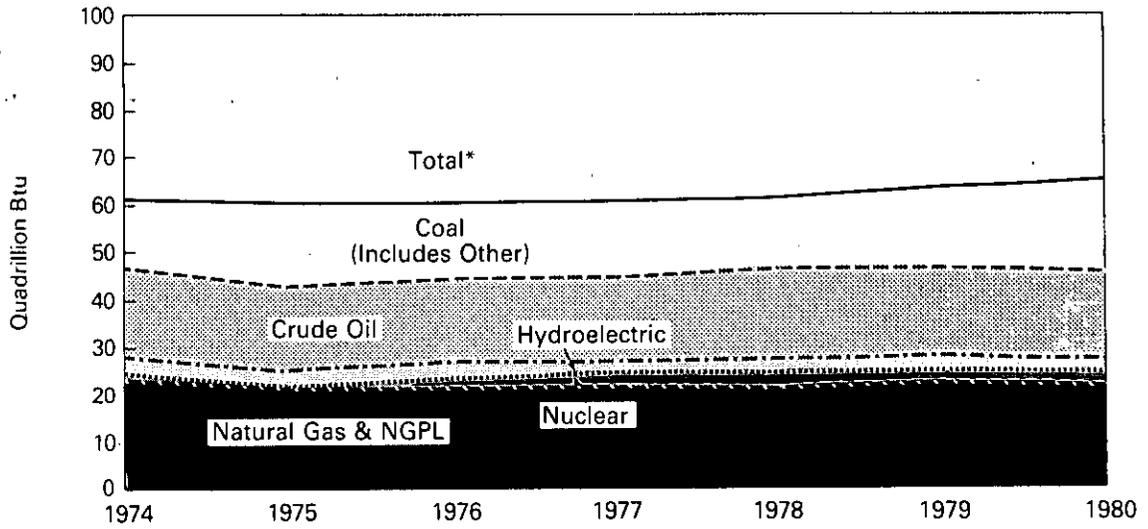
R = Revised data.

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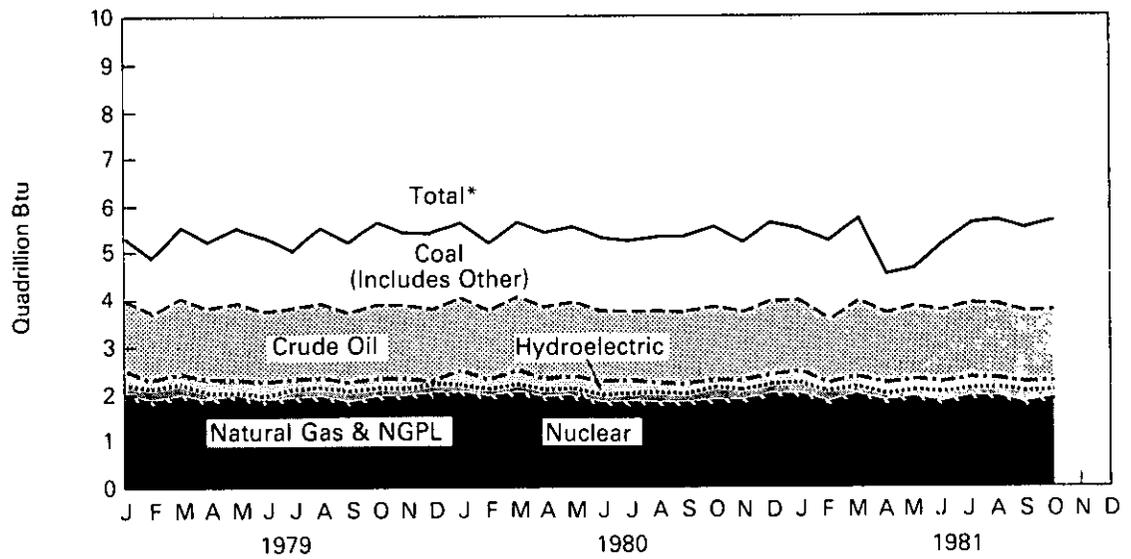
Executive Summary

Production of Energy by Type

Yearly



Monthly



*Btu equivalents for all fuels are cumulated to create total.

Executive Summary

Consumption of Energy by Type

		Coal ¹	Natural Gas (Dry)	Petroleum	Hydro-electric Power ²	Nuclear Electric Power	Net Imports of Coal Coke ³	Other ⁴	Total Energy Consumed	Yearly Cumulative Energy Consumed
Quadrillion (10 ¹⁵) Btu										
1973	TOTAL	13.300	22.512	34.840	3.010	0.910	(0.008)	0.046	74.609	
1974	TOTAL	12.876	21.732	33.455	3.309	1.272	0.059	0.056	72.759	
1975	TOTAL	12.823	19.948	32.731	3.219	1.900	0.014	0.072	70.707	
1976	TOTAL	13.733	20.345	35.175	3.066	2.111	0.000	0.081	74.510	
1977	TOTAL	13.965	19.931	37.122	2.515	2.702	0.015	0.082	76.332	
1978	TOTAL	13.846	20.000	37.965	3.164	2.977	0.131	0.068	78.150	
1979	TOTAL	15.109	20.666	37.123	3.166	2.748	0.066	0.089	78.968	
1980	January	1.410	2.327	3.177	0.285	0.213	0.003	0.008	7.423	7.423
	February	1.325	2.238	2.998	0.242	0.208	(0.001)	0.008	7.018	14.441
	March	1.307	2.143	2.961	0.275	0.216	(0.003)	0.008	6.906	21.347
	April	1.169	1.601	2.756	0.289	0.202	(0.005)	0.008	6.021	27.368
	May	1.173	1.383	2.749	0.323	0.198	(0.006)	0.010	5.831	33.199
	June	1.245	1.279	2.672	0.309	0.197	(0.004)	0.009	5.709	38.908
	July	1.401	1.328	2.719	0.276	0.226	(0.004)	0.010	5.957	44.865
	August	1.393	1.272	2.679	0.234	0.262	(0.003)	0.011	5.847	50.712
	September	1.272	1.326	2.727	0.213	0.254	(0.004)	0.010	5.798	56.510
	October	1.238	1.574	2.880	0.207	0.264	(0.006)	0.011	6.168	62.678
	November	1.261	1.820	2.752	0.220	0.226	(0.002)	0.011	6.288	68.966
	December	1.407	2.201	3.126	0.253	0.238	(0.001)	0.011	7.235	76.201
	TOTAL	15.603	20.495	34.196	3.125	2.704	(0.037)	0.114	76.201	
1981	January	1.491	2.303	3.115	0.254	0.252	0.000	0.011	7.426	7.426
	February	1.322	1.939	2.604	0.239	0.233	(0.001)	0.010	6.346	13.772
	March	1.333	1.946	2.697	0.236	0.237	(0.003)	0.011	6.458	20.230
	April	1.207	1.544	2.518	0.237	0.222	(0.001)	0.010	5.737	25.967
	May	1.213	1.490	2.588	0.273	0.212	0.000	0.010	5.786	31.753
	June	1.317	1.364	R2.636	0.296	0.228	(0.004)	0.010	R5.847	R37.600
	July	1.501	1.395	R2.676	0.283	0.249	0.000	0.011	R6.115	R43.716
	August	1.437	R1.396	R2.595	0.246	0.290	0.000	0.011	5.976	R49.691
	September	1.309	R1.348	2.538	0.206	0.263	(0.002)	0.011	R5.673	R55.364
	October	1.297	1.593	2.619	0.209	0.221	(0.003)	0.011	5.948	61.312
	TOTAL	13.428	16.317	26.588	2.479	2.407	(0.014)	0.107	61.312	
	(Year-to-date)									

Geographic coverage: the 50 United States and District of Columbia.
Totals may not equal sum of components due to independent rounding.

¹Includes bituminous coal, lignite, and anthracite.

²Includes industrial and utility production, and net imports of electricity.

³Parentheses indicate exports are greater than imports.

⁴Includes geothermal power and electricity produced from wood and waste.

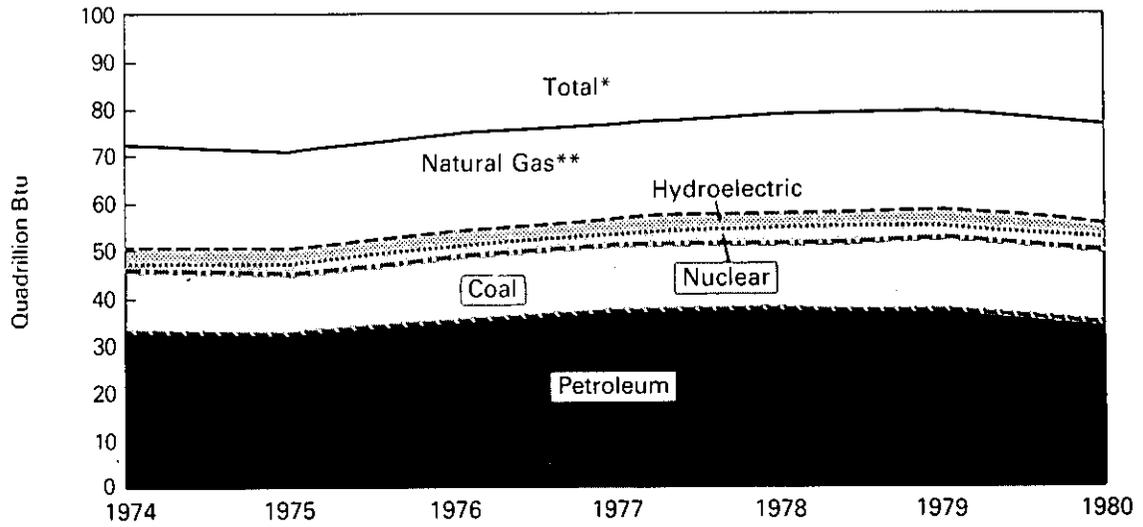
R = Revised data.

Source: •Energy Information Administration calculations based on data reported elsewhere in this publication.

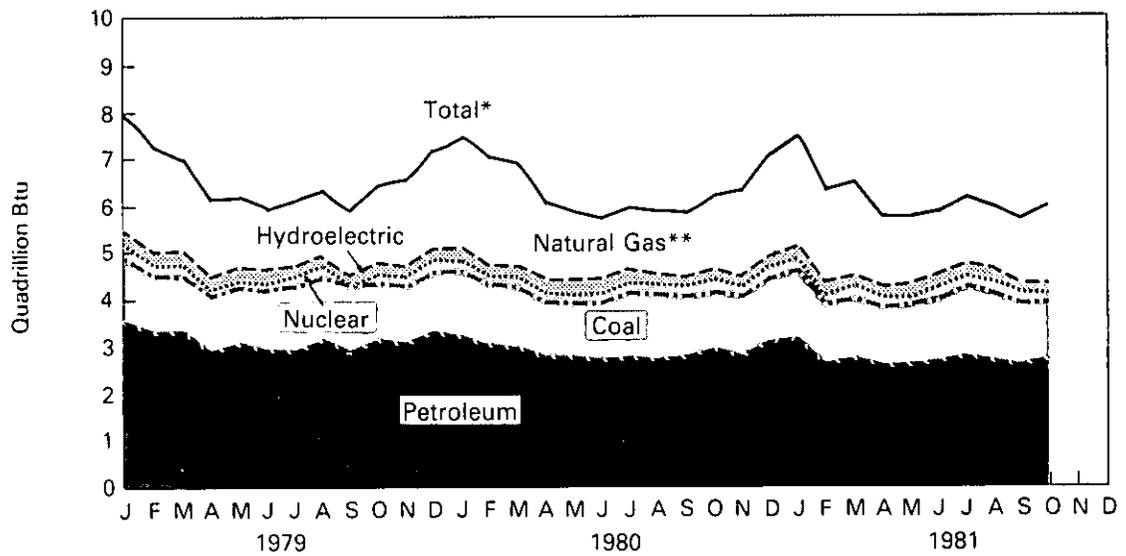
Executive Summary

Consumption of Energy by Type

Yearly



Monthly



*Btu equivalents for all fuels were cumulated to create total.
 **Includes net imports of coal coke and other.

Executive Summary

Net Imports of Energy by Type¹

		Coal ²	Crude Oil ³	Refined Petroleum Products ⁴	Natural Gas (Dry)	Electricity ⁵	Coal Coke	Net Imports	Yearly Cumulative Net Imports of Energy
Quadrillion (10 ¹⁵) Btu									
1973	TOTAL	(1.443)	6.883	6.097	0.981	0.148	(0.008)	12.659	
1974	TOTAL	(1.585)	7.389	5.273	0.907	0.133	0.059	12.175	
1975	TOTAL	(1.766)	8.708	3.800	0.904	0.064	0.014	11.725	
1976	TOTAL	(1.590)	11.221	3.982	0.922	0.089	0.000	14.625	
1977	TOTAL	(1.424)	13.921	4.321	0.981	0.182	0.015	17.995	
1978	TOTAL	(1.024)	13.125	3.932	0.941	0.206	0.131	17.310	
1979	TOTAL	(1.730)	13.328	3.603	1.243	0.212	0.066	16.722	
1980	January	(0.117)	1.089	0.316	0.116	0.018	0.003	1.426	1.426
	February	(0.104)	0.948	0.284	0.107	0.017	(0.001)	1.251	2.676
	March	(0.150)	0.984	0.266	0.108	0.018	(0.003)	1.223	3.900
	April	(0.202)	0.931	0.207	0.077	0.017	(0.005)	1.024	4.924
	May	(0.227)	0.858	0.218	0.070	0.018	(0.006)	0.931	5.855
	June	(0.237)	0.892	0.196	0.060	0.017	(0.004)	0.923	6.778
	July	(0.221)	0.794	0.199	0.060	0.018	(0.004)	0.845	7.624
	August	(0.246)	0.837	0.205	0.059	0.018	(0.003)	0.870	8.494
	September	(0.226)	0.765	0.216	0.057	0.017	(0.004)	0.825	9.319
	October	(0.251)	0.791	0.236	0.073	0.018	(0.006)	0.860	10.179
	November	(0.242)	0.763	0.256	0.088	0.017	(0.002)	0.879	11.058
	December	(0.220)	0.847	0.276	0.097	0.018	(0.001)	1.016	12.074
	TOTAL	(2.444)	10.498	2.873	0.972	0.212	(0.037)	12.074	
1981	January	(0.155)	0.826	0.301	0.084	0.018	0.000	1.073	1.073
	February	(0.180)	0.761	0.249	0.079	0.016	(0.001)	0.923	1.996
	March	(0.260)	0.776	0.203	0.072	0.018	(0.003)	0.806	2.803
	April	(0.221)	0.742	0.163	0.067	0.017	(0.001)	0.768	3.570
	May	(0.162)	0.712	0.207	0.058	0.018	0.000	0.834	4.404
	June	(0.162)	R0.690	R0.181	0.060	0.017	(0.004)	R0.782	R5.187
	July	(0.290)	R0.735	R0.208	0.063	0.018	0.000	R0.735	R5.922
	August	(0.301)	R0.713	R0.203	0.060	0.018	0.000	R0.694	R6.616
	September	(0.319)	0.788	0.209	0.065	0.017	(0.002)	0.759	R7.375
	October	(0.331)	0.741	0.163	0.076	0.018	(0.003)	0.664	8.039
	TOTAL	(2.382)	7.485	2.087	0.685	0.177	(0.014)	8.039	
	(Year-to-date)								

Geographic coverage: the 50 United States and District of Columbia.

Totals may not equal sum of components due to independent rounding.

¹Net imports=imports minus exports. Parentheses indicate exports are greater than imports.

²Includes bituminous coal, lignite, and anthracite.

³Includes crude oil, lease condensate, and imports of crude oil for the Strategic Petroleum Reserve.

⁴Includes refined petroleum products, unfinished oils, natural gasoline, and plant condensate.

⁵Only yearly totals are available for electricity import and export data. Figures shown are estimates derived by dividing the yearly net import total by the number of days in the year and multiplying by the number of days in the month. Annual data for 1979 are used in estimating 1980 and 1981 data until actual annual data become available for those years.

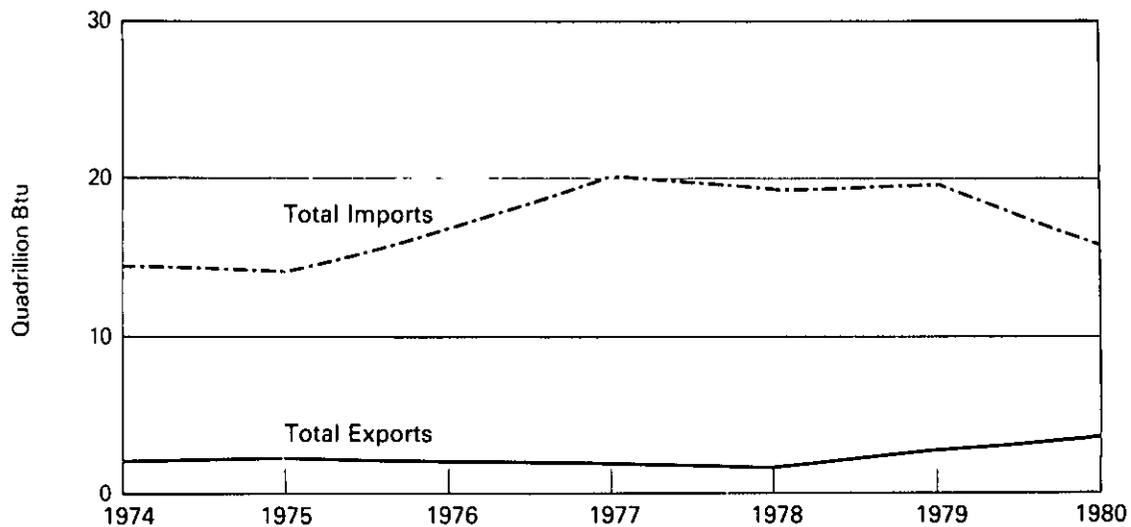
R=Revised data.

Source: •Energy Information Administration calculations based on data reported elsewhere in this publication.

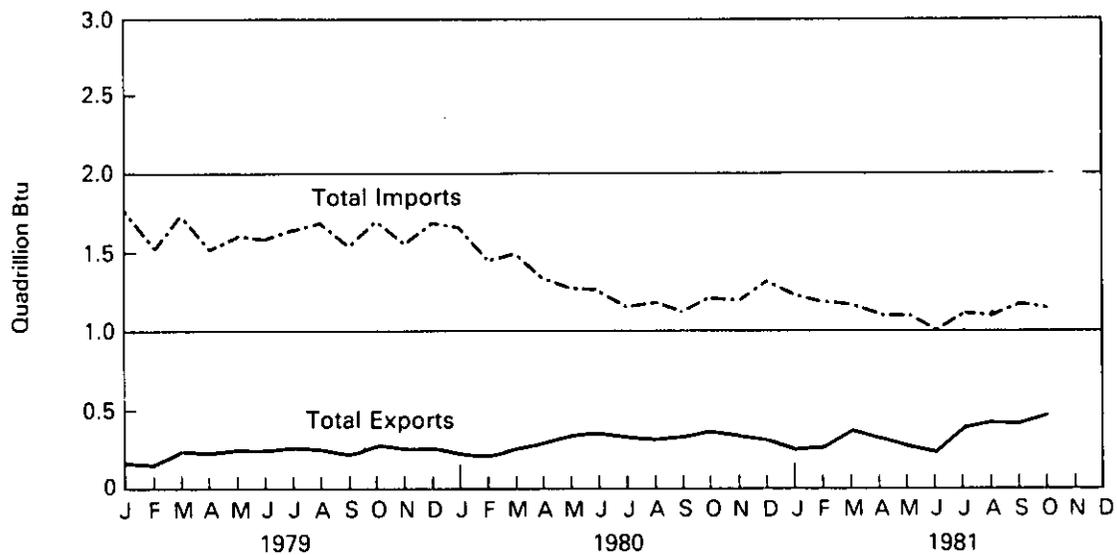
Executive Summary

Energy Imports and Exports

Yearly



Monthly



Executive Summary

Merchandise Trade Value

	Exports			Imports			Trade Balance			
	Energy	All Other	Total	Energy	All Other	Total	Energy	All Other	Total	
Million dollars										
1973 TOTAL	1,671	69,202	70,873	8,173	61,659	69,832	-6,502	+7,543	+1,041	
1974 TOTAL	3,444	94,553	97,997	25,454	75,194	100,648	-22,010	+19,360	-2,650	
1975 TOTAL	4,470	103,119	107,589	26,476	70,094	96,570	-22,006	+33,025	+11,019	
1976 TOTAL	4,226	110,924	115,150	33,996	87,013	121,009	-29,770	+23,911	-5,859	
1977 TOTAL	4,184	116,966	121,150	44,537	103,148	147,685	-40,353	+13,818	-26,535	
1978 TOTAL	3,881	139,696	143,577	42,096	129,882	171,978	-38,215	+9,814	-28,401	
1979 TOTAL	5,621	176,030	181,651	59,998	146,258	206,256	-54,377	+29,772	-24,605	
1980	January	619	16,801	17,419	7,118	14,024	21,142	-6,499	+2,776	-3,723
	February	584	16,400	16,984	8,152	13,626	21,779	-7,568	+2,774	-4,794
	March	636	17,629	18,265	7,564	13,384	20,947	-6,928	+4,246	-2,682
	April	607	17,960	18,567	6,797	12,969	19,766	-6,190	+4,992	-1,198
	May	660	16,987	17,647	7,150	13,437	20,587	-6,490	+3,549	-2,941
	June	656	17,784	18,440	7,276	13,077	20,353	-6,620	+4,708	-1,912
	July	695	17,572	18,267	5,986	13,153	19,139	-5,291	+4,419	-872
	August	702	18,385	19,087	6,461	13,252	19,713	-5,759	+5,133	-626
	September	710	18,119	18,828	6,278	13,662	19,941	-5,568	+4,456	-1,112
	October	662	18,552	19,214	6,601	13,747	20,347	-5,939	+4,805	-1,134
	November	709	18,006	18,715	6,128	13,732	19,860	-5,419	+4,274	-1,145
	December	706	18,545	19,251	7,413	14,023	21,436	-6,707	+4,522	-2,185
	TOTAL	7,982	212,644	220,626	82,924	161,947	244,871	-74,942	+50,698	-24,244
1981	January	806	18,019	18,825	8,014	15,180	23,194	-7,208	+2,838	-4,370
	February	977	18,787	19,764	7,943	13,978	21,922	-6,966	+4,808	-2,158
	March	951	20,484	21,434	6,476	14,473	20,949	-5,525	+6,010	+485
	April	691	19,127	19,818	7,836	14,454	22,289	-7,145	+4,674	-2,471
	May	566	18,304	18,869	6,078	15,232	21,310	-5,512	+3,071	-2,441
	June	575	19,295	19,870	7,256	14,719	21,975	-6,681	+4,576	-2,105
	July	869	18,395	19,264	5,692	14,115	19,807	-4,823	+4,281	-542
	August	894	18,156	19,050	6,881	16,648	23,528	-5,987	+1,509	-4,478
	September	947	18,708	19,655	6,558	14,671	21,229	-5,611	+4,037	-1,574
	October	989	18,055	19,044	6,644	16,590	23,234	-5,655	+1,464	-4,191
	November	960	18,158	19,118	6,613	15,909	22,522	-5,653	+2,249	-3,404
	TOTAL (Year-to-date)	9,225	205,486	214,711	75,991	165,968	241,959	-66,766	+39,517	-27,250

Totals may not equal sum of components due to independent rounding.

Note: The U.S. import statistics reflect both government and nongovernment imports of merchandise from foreign countries into the U.S. Customs territory which includes the 50 United States, the District of Columbia, and Puerto Rico. See Note at the end of this section.

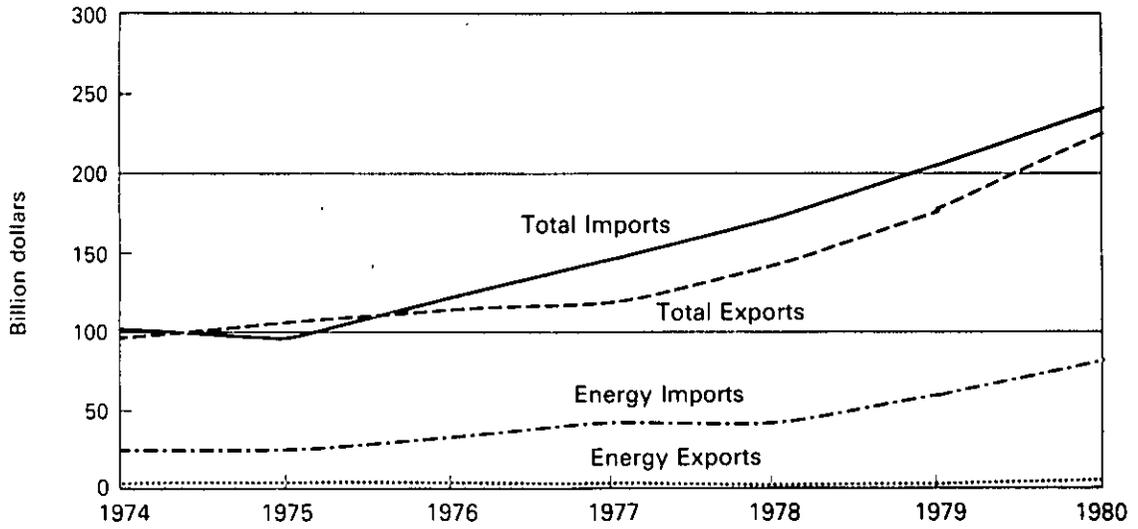
Sources: • 1973 through 1978: U.S. Department of Commerce, International Trade Administration, *Overseas Business Reports*, "United States Foreign Trade Annual", 1973-1979;

• 1979 forward: U.S. Department of Commerce, Bureau of the Census, "Summary of U.S. Export and Import Merchandise Trade," December 1980 issue for 1979 data and most recent monthly issue for 1980 and 1981.

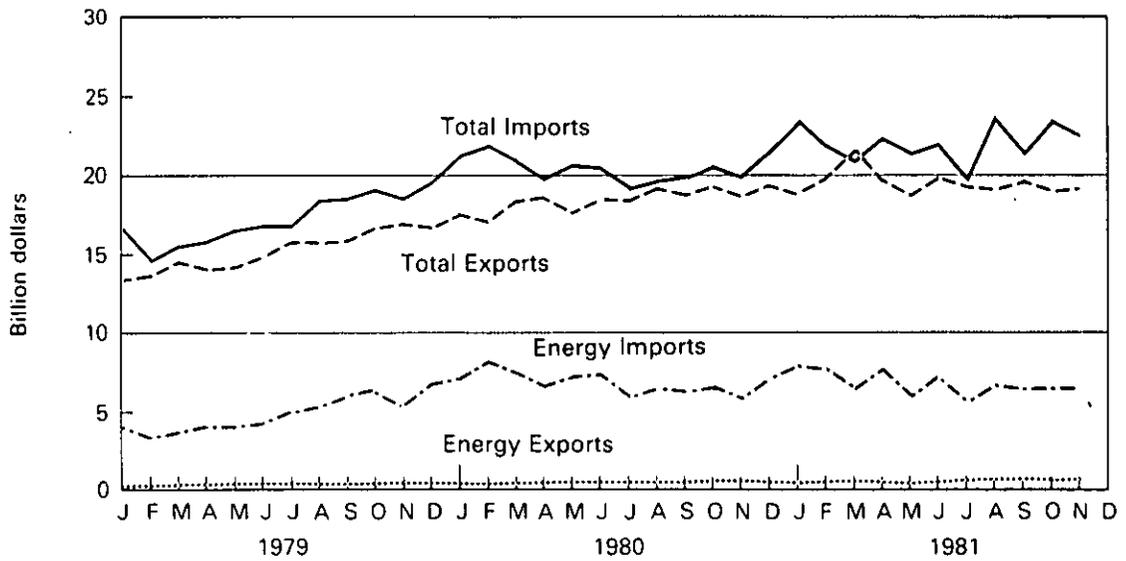
Executive Summary

Merchandise Trade Value

Yearly



Monthly



Executive Summary

Heating Degree-Days¹

Petroleum Administration For Defense (PAD) Districts	November 30 through December 27					Cumulative July 1 through December 27				
	1981	1980 ²		Normal (1941-70) ²		1981	1980 ²		Normal (1941-70) ²	
PAD District I	776	817	(-5.1)	753	(3.0)	1,678	1,732	(-3.1)	1,548	(8.4)
New England Conn., Maine, Mass., N.H., R.I., Vt.	931	1,067	(-12.8)	952	(-2.3)	2,187	2,360	(-7.3)	2,068	(5.7)
Middle Atlantic Del., Md., N.J., N.Y., Pa.	879	964	(-8.8)	874	(0.5)	1,960	2,050	(-4.4)	1,815	(8.0)
Lower Atlantic Fla., Ga., N.C., S.C., Va., W. Va.	553	488	(13.5)	484	(14.4)	1,030	979	(5.2)	919	(12.1)
PAD District II	1,000	982	(1.9)	978	(2.3)	2,176	2,234	(-2.6)	2,122	(2.5)
Ill., Ind., Iowa, Kans., Ky., Mich., Minn., Mo., Nebr., N. Dak., Ohio, Okla., S. Dak., Tenn., Wisc.										
Pad District III	448	427	(4.9)	443	(1.1)	761	883	(-13.8)	802	(-5.1)
Ala., Ark., La., Miss., N. Mex., Tex.										
PAD District IV	845	818	(3.4)	967	(-12.6)	2,007	2,105	(-4.7)	2,344	(-14.4)
Colo., Idaho, Mont., Utah, Wyo.										
PAD District V	333	339	(-1.7)	423	(-21.3)	814	820	(-0.7)	1,011	(-19.5)
Ariz., Calif., Nev., Oreg., Wash.										
U.S. AVERAGE³	749	757	(-1.0)	748	(0.1)	1,618	1,676	(-3.5)	1,591	(1.7)

¹See Explanatory Note 6 for explanation of degree-days.

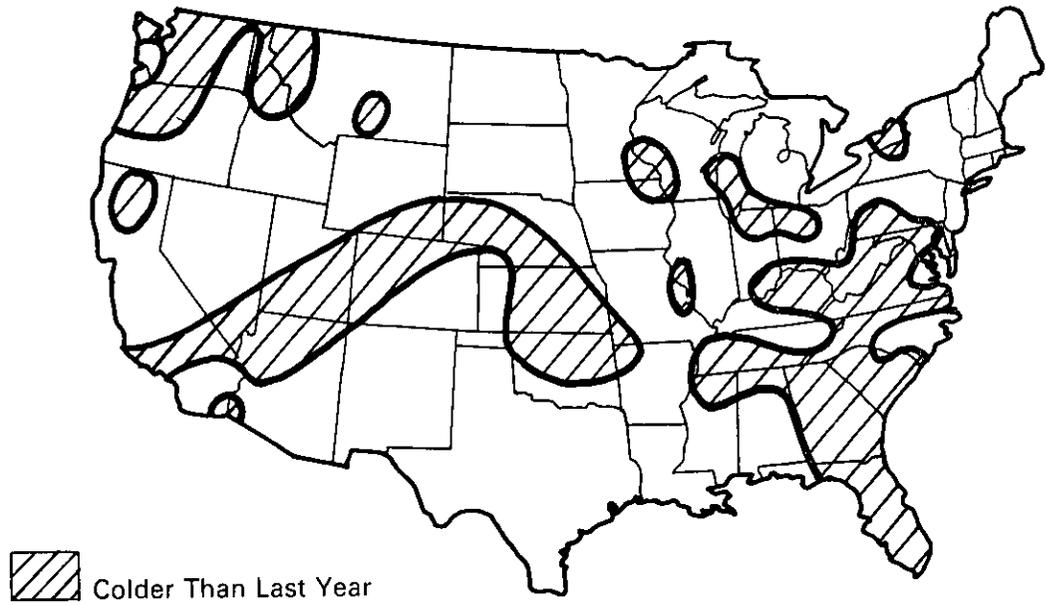
²Percentage change in parentheses.

³Excludes Alaska and Hawaii.

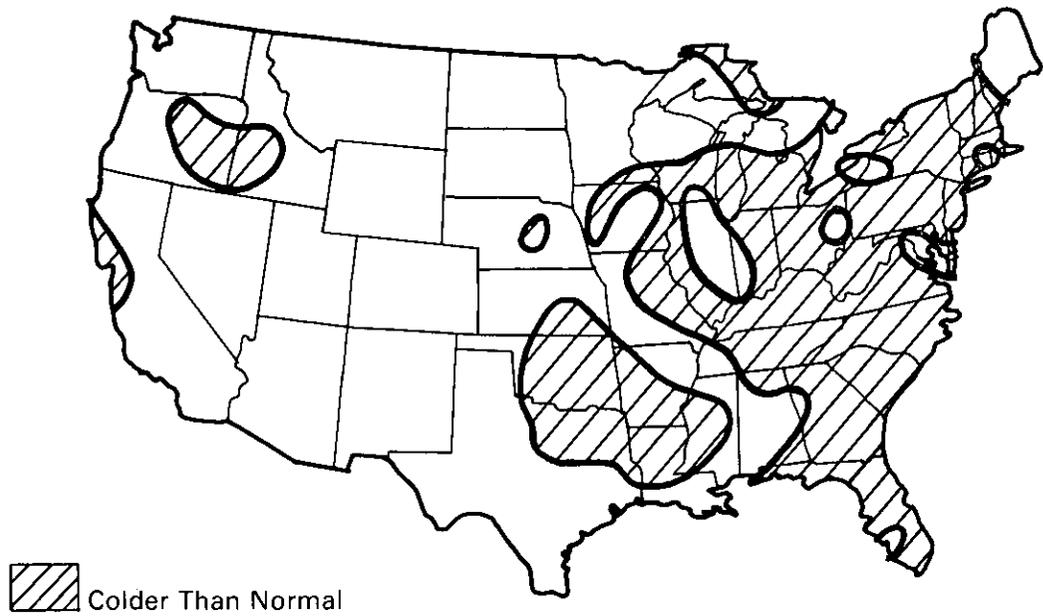
Executive Summary

Heating Degree-Days Accumulated from July 1 through December 27

Departure from Last Year



Departure from Normal



Source: • Department of Commerce — NOAA.

Executive Summary

Energy Indicators—

Energy Consumption per GNP Dollar						U.S. Dependence on Petroleum Imports ¹			
		Energy Consumption per GNP Dollar ²	Yearly Rate of Energy Consumption	Gross National Product (Annual rate)		Direct Imports			Domestic Petroleum Products Supplied
				Current Dollars	1972 Dollars ³	From Arab/OPEC Countries	From OPEC Countries	Total All Countries	
ANNUAL RATE			Quadrillion Btu	Trillion Dollars		Million barrels per day			
1973	AVERAGE	59.4	74.609	1.326	1.255	0.92	2.99	6.26	17.31
1974	AVERAGE	58.3	72.759	1.434	1.248	0.75	3.28	6.11	16.65
1975	AVERAGE	57.3	70.707	1.549	1.234	1.38	3.60	6.06	16.32
1976	AVERAGE	57.3	74.510	1.718	1.300	2.42	5.07	7.31	17.46
1977	AVERAGE	55.6	76.332	1.918	1.372	3.19	6.19	8.81	18.43
1978	AVERAGE	54.4	78.150	2.156	1.437	2.96	5.75	8.36	18.85
1979	AVERAGE	53.2	78.968	2.414	1.483	3.06	5.64	8.46	18.51
1980	1st Qtr	57.2	85.857	2.572	1.502	3.00	4.97	7.90	18.27
	2nd Qtr	48.3	70.630	2.565	1.463	2.59	4.28	6.81	16.36
	3rd Qtr	47.6	70.025	2.637	1.472	2.26	3.74	6.11	16.07
	4th Qtr	52.7	78.336	2.731	1.486	2.33	4.03	6.52	17.33
	AVERAGE	51.5	76.201	2.626	1.481	2.54	4.25	6.83	17.01
1981	1st Qtr	54.1	82.044	2.853	1.516	2.06	3.81	6.53	17.02
	2nd Qtr	46.1	69.651	2.886	1.510	1.81	3.12	5.58	15.48
	3rd Qtr	46.7	70.604	2.957	1.513	1.84	3.14	5.84	15.61

Geographic coverage: the 50 United States and District of Columbia.

¹Beginning in October 1977 Strategic Petroleum Reserve imports are included.

²Thousand Btu per 1972 constant dollar.

³Current dollars are converted to 1972 constant dollars by the formula:

Constant 1972 dollars = 100(Current dollars in year N/GNP implicit price deflator in year N).

The Gross National Product deflators (1972=100) were determined by the Department of Commerce, Bureau of Economic Analysis.

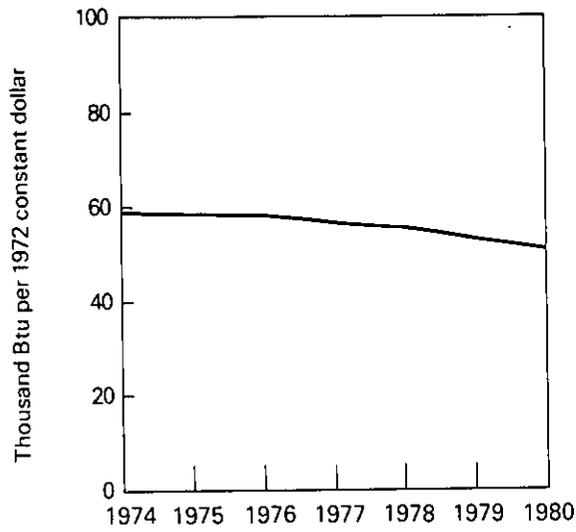
GNP rates are from the *Business Conditions Digest* published by the Bureau of Economic Analysis.

Note: This page is updated every quarter, during the months of March, June, September, and December. In other months, data appearing elsewhere in this publication are more current.

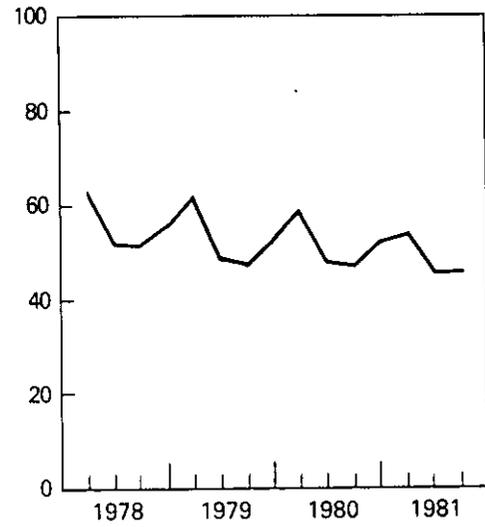
Executive Summary

Energy Consumption per GNP Dollar

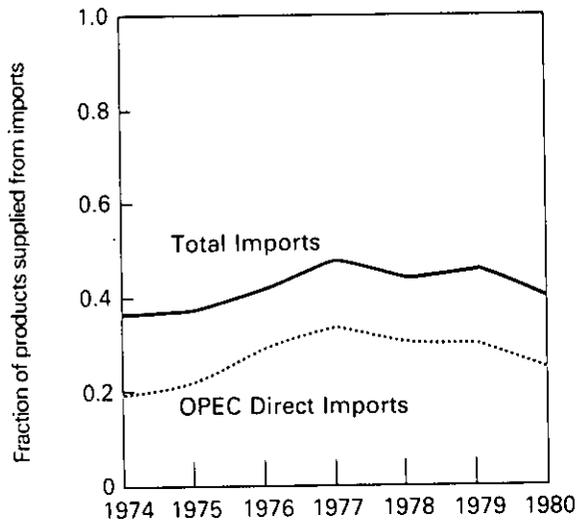
Yearly



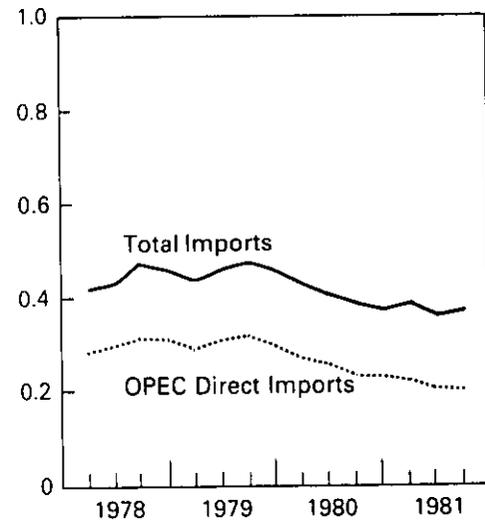
Quarterly



Yearly



Quarterly

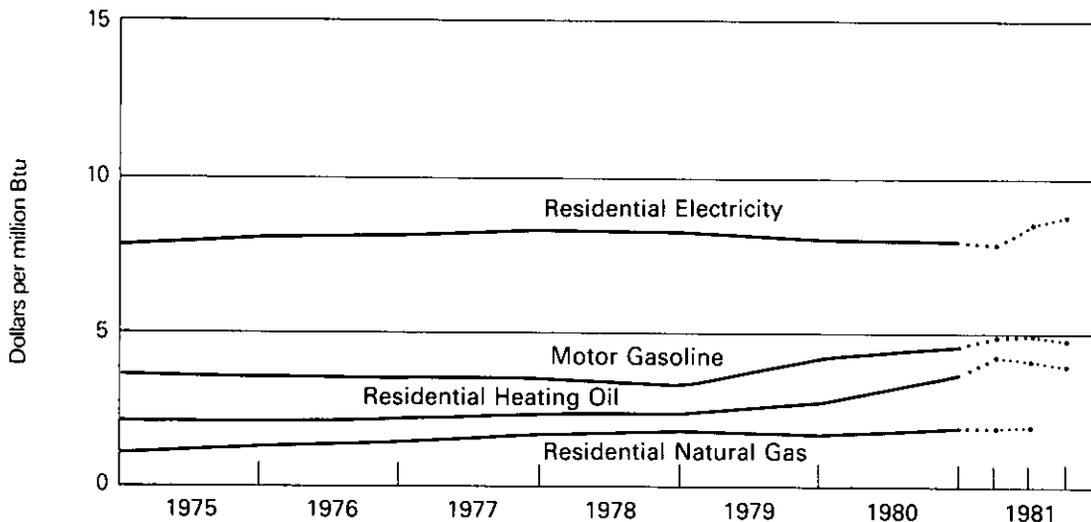


Executive Summary

Energy Indicator—Cost of Fuels to End Users (1972 Dollars)

		Leaded Regular Motor Gasoline		Residential Heating Oil		Residential Natural Gas		Residential Electricity	
		cent/gal	\$/MMBtu	cent/gal	\$/MMBtu	cent/Mcf	\$/MMBtu	cent/kWh	\$/MMBtu
1973	AVERAGE	NA	NA	NA	NA	121.2	1.19	2.39	7.00
1974	AVERAGE	45.1	3.61	29.4	2.12	121.4	1.19	2.63	7.71
1975	AVERAGE	44.1	3.53	29.3	2.11	132.8	1.30	2.73	8.00
1976	AVERAGE	43.4	3.47	29.8	2.15	145.4	1.43	2.74	8.03
1977	AVERAGE	42.9	3.43	31.8	2.29	162.2	1.59	2.80	8.21
1978	AVERAGE	40.1	3.21	31.7	2.29	164.4	1.62	2.76	8.09
1979	AVERAGE	49.4	3.95	37.8	2.73	171.5	1.68	2.67	7.83
1980	1st Qtr	60.9	4.87	49.8	3.59	190.9	1.88	2.53	7.42
	2nd Qtr	62.1	4.97	49.8	3.59	197.2	1.94	2.75	8.06
	3rd Qtr	60.6	4.85	49.2	3.55	207.6	2.04	2.86	8.38
	4th Qtr	58.2	4.65	50.7	3.66	198.9	1.95	2.73	8.00
	AVERAGE	60.5	4.84	49.7	3.58	198.8	1.95	2.72	7.97
1981	1st Qtr	62.1	4.97	57.0	4.11	196.0	1.93	2.65	7.77
	2nd Qtr	62.1	4.97	57.2	4.12	207.5	2.04	2.91	8.53
	3rd Qtr	59.3	4.74	54.4	3.92	NA	NA	2.99	8.76

Average Cost of Fuels to End Users (1972 constant dollars)



Geographic coverage: the 50 United States and District of Columbia.

NA=Not available.

Note: This page is updated every quarter, during the months of March, June, September, and December. In other months, data appearing elsewhere in this publication are more current.

Sources: • Motor Gasoline—Bureau of Labor Statistics.

• Heating Oil—1974 and 1975: Form CLC-92, "No. 2 Heating Oil Monthly Price Adjustment Report"; 1976 forward: FEA Form P112-M-1 and EIA-9, "No. 2 Heating Oil Supply/Price Monitoring Report."

• Natural Gas—1973 through 1979 annual numbers: Bureau of Mines and Energy Information Administration, Form 1340-A, "Supply and Disposition of Natural Gas to Non-Producing Distributors" and Form 1341-A, "Supply and Disposition of Natural Gas to Producers and Pipelines"; 1980 and 1981 quarterly numbers and 1980 annual numbers: Bureau of Labor Statistics.

• Electricity—1973 through February 1980: FPC Form 5, "Monthly Statement of Electric Operating Revenue and Income"; March 1980 forward: FERC Form 5, "Electric Utility Company Monthly Statement."

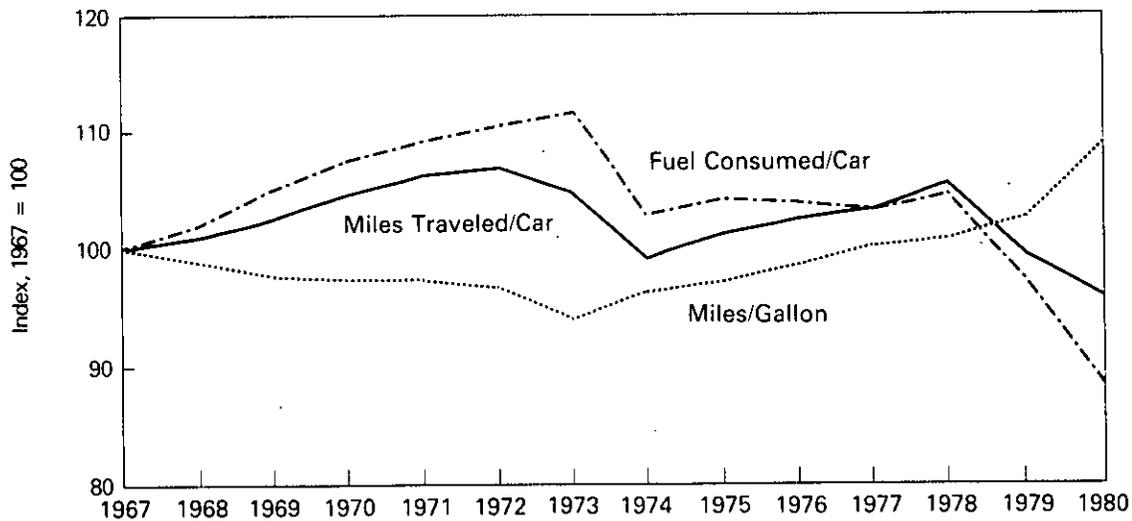
• Deflator—The Consumer Price Index.

Executive Summary

Energy Indicator—U.S. Passenger Car Efficiency

	Average Fuel Consumed per Car		Average Miles Traveled per Car		Average Miles Traveled per Gallon of Fuel Consumed	
	Gallons	Index	Miles	Index	Miles	Index
1967	684	100.0	9,531	100.0	13.93	100.0
1968	698	102.0	9,627	101.0	13.79	99.0
1969	718	105.0	9,782	102.6	13.63	97.8
1970	735	107.5	9,978	104.7	13.57	97.4
1971	746	109.1	10,121	106.2	13.57	97.4
1972	755	110.4	10,184	106.9	13.49	96.8
1973	763	111.5	9,992	104.8	13.10	94.0
1974	704	102.9	9,448	99.1	13.43	96.4
1975	712	104.1	9,634	101.1	13.53	97.1
1976	711	103.9	9,763	102.4	13.72	98.5
1977	706	103.2	9,839	103.2	13.94	100.1
1978	715	104.5	10,046	105.4	14.06	100.9
1979	664	97.1	9,485	99.5	14.29	102.6
1980	603	88.2	9,135	95.8	15.15	108.8

U.S. Passenger Car Efficiency Index



Geographic coverage: the 50 United States and District of Columbia.

Source: • U.S. Department of Transportation, Federal Highway Administration, Federal Highway Statistics Division, "Highway Statistics," Table VM-1.

Note for the Executive Summary Section

•Merchandise Trade Value Table: The U.S. import statistics reflect both government and nongovernment imports of merchandise from foreign countries into the U.S. Customs territory which includes the 50 United States, the District of Columbia, and Puerto Rico. The statistics exclude imports into Guam, American Samoa, and other U.S. possessions; as well as shipments between the United States and Puerto Rico, between the United States and U.S. possessions, and between any of these outlying areas. Also, U.S. Virgin Island trade with foreign countries is included in all import data and total export data beginning with January 1980 and is included in energy export data beginning with January 1981. Data presented are on a free alongside ship (f.a.s.) basis except for 1973 imports which are on a customs value basis (i.e., generally at prices in principal foreign markets). Monthly data are adjusted for seasonal and working-day variation; annual data are unadjusted. Statistics include nonmonetary gold. Statistics exclude Department of Defense (DOD) Military Program Grant-Aid shipments. "All Other" and "Total" columns include foreign exports (i.e., reexports). The "Energy" columns include mineral fuels, lubricants, and related material. "Imports" represent general imports (i.e., entries for immediate consumption, entries into Customs bonded warehouses, and entries for the Strategic Petroleum Reserve). "Trade Balance" is exports minus imports: positive indicates surplus trade value and negative indicates deficit trade value. The "All Other" columns are calculated by subtracting "energy" from "total." Totals may not equal sum of components due to independent rounding.

Energy Consumption

Total U.S. energy consumption in October 1981 dropped to 5.9 quadrillion Btu, 3.6 percent below the October 1980 level.

The Residential and Commercial Sector consumption was 1.9 quadrillion Btu in October 1981, 4.5 percent higher than in September 1981 and 0.2 percent higher than the amount consumed during October 1980. The Residential and Commercial Sector consumed 32.4 percent of the total consumption for October 1981, up from the sector's 31.2 percent share in October 1980.

The Industrial Sector consumption was 2.5 quadrillion Btu in October 1981, up 6.3 percent from the September 1981 level and down 6.7 percent from the consumption level in October 1980. The Industrial Sector consumed 41.3 percent of the October 1981

total, as compared to the 42.6 percent share in October 1980.

The Transportation Sector consumption was 1.6 quadrillion Btu in October 1981, up 3.2 percent from September 1981 but down 3.2 percent from the consumption level in October 1980. This sector consumed 26.2 percent of the October 1981 total, the same percent share as in October 1980.

The Electric Utilities consumption was an estimated 2.0 quadrillion Btu of energy in October 1981, 3.6 percent lower than in the previous month, and 1.1 percent lower than the energy consumed in October 1980. Coal contributed 52.1 percent of the energy consumed by Electric Utilities in October 1981, while natural gas contributed 15.9 percent, nuclear power 11.3 percent, hydroelectric power 10.6 percent, petroleum 9.5 percent, and geothermal, wood and waste 0.6 percent.

Consumption

Energy Consumption Summary for October 1981 Quadrillion (10¹⁵) Btu

Primary Energy Source	Sector				TOTAL
	Residential and Commercial	Industrial	Transportation	Electric Utilities	
Coal	0.014	0.262	0.000	1.018	1.297
Natural Gas (dry)	0.399	0.836	0.047	0.311	1.593
Petroleum	0.366	0.556	1.511	0.186	2.619
Hydroelectric	0.000	0.002	0.000	0.207	0.209
Nuclear	0.000	0.000	0.000	0.221	0.221
Net Coke Imports	0.000	(0.003)	0.000	0.000	(0.003)
Other	0.000	0.000	0.000	0.011	0.011
TOTAL PRIMARY ENERGY	0.779	1.653	1.558	1.954	5.948
Electricity Sales	0.339	0.236	0.001	(0.576)	
Net Energy Consumption	1.118	1.889	1.559		4.569
Electrical Energy Losses	0.811	0.565	0.002	(1.378)	1.378
TOTAL ENERGY CONSUMED	1.929	2.454	1.561		5.948

Totals may not equal sum of components due to independent rounding.
Notes and sources for this table and all other tables in this section are provided at the end of this section.

Consumption

Consumption of Energy by End-Use Sector¹

		Residential and Commercial	Industrial	Transportation	Total Energy Consumed
Quadrillion (10 ¹⁵) Btu					
1973	TOTAL	26.615	29.472	18.519	74.609
1974	TOTAL	25.981	28.748	18.026	72.759
1975	TOTAL	26.015	26.510	18.177	70.707
1976	TOTAL	27.217	28.226	19.063	74.510
1977	TOTAL	27.568	29.026	19.735	76.332
1978	TOTAL	28.217	29.317	20.613	78.150
1979	TOTAL	27.144	31.396	20.425	78.968
1980	January	2.859	2.892	1.676	7.423
	February	2.818	2.592	1.611	7.018
	March	2.637	2.636	1.635	6.906
	April	2.101	2.347	1.581	6.021
	May	1.856	2.407	1.573	5.831
	June	1.883	2.306	1.517	5.709
	July	2.099	2.268	1.577	5.957
	August	2.076	2.216	1.543	5.847
	September	1.936	2.338	1.515	5.798
	October	1.925	2.629	1.613	6.168
	November	2.104	2.679	1.505	6.288
	December	2.713	2.818	1.702	7.235
	TOTAL	27.008	30.128	19.047	76.201
1981	January	3.127	2.598	1.700	7.426
	February	2.684	2.206	1.456	6.346
	March	2.439	2.458	1.561	6.458
	April	1.976	2.265	1.496	5.737
	May	1.841	2.419	1.522	5.786
	June	R1.912	R2.361	R1.563	R5.847
	July	R2.069	R2.448	R1.590	R6.115
	August	R2.015	R2.404	R1.546	5.976
	September	1.846	R2.308	1.513	R5.673
	October	1.929	2.454	1.561	5.948
	TOTAL (Year-to-date)	21.839	23.921	15.509	61.312

Geographic coverage: the 50 United States and District of Columbia.

Totals may not equal sum of components due to independent rounding.

¹See Explanatory Note 5 for definitions of the Residential and Commercial, Industrial, and Transportation Sectors. The methodology used for sector calculations is provided in the Notes and Sources at the end of this section.

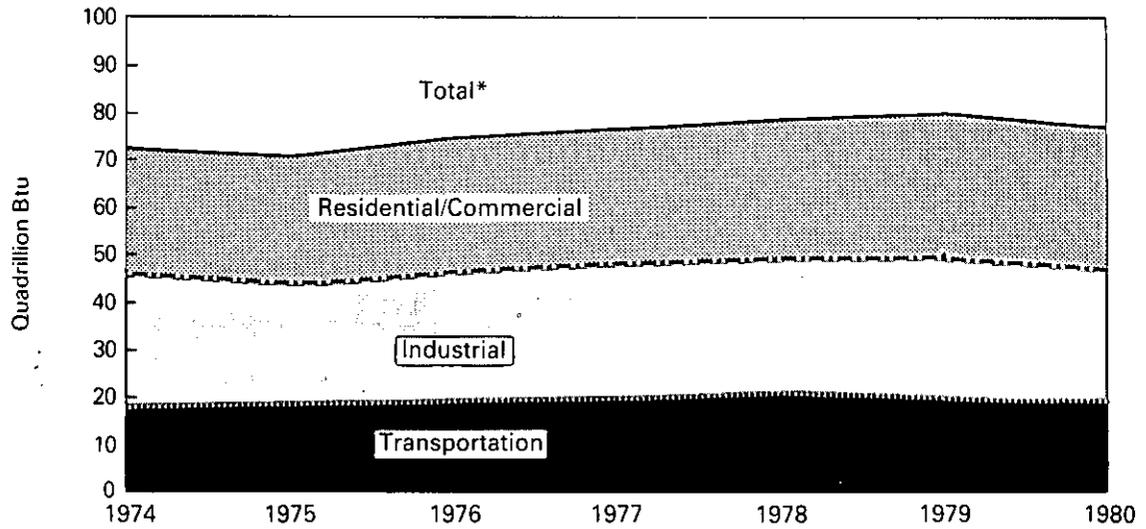
R = Revised data.

Source: *See Notes and Sources at the end of this section.

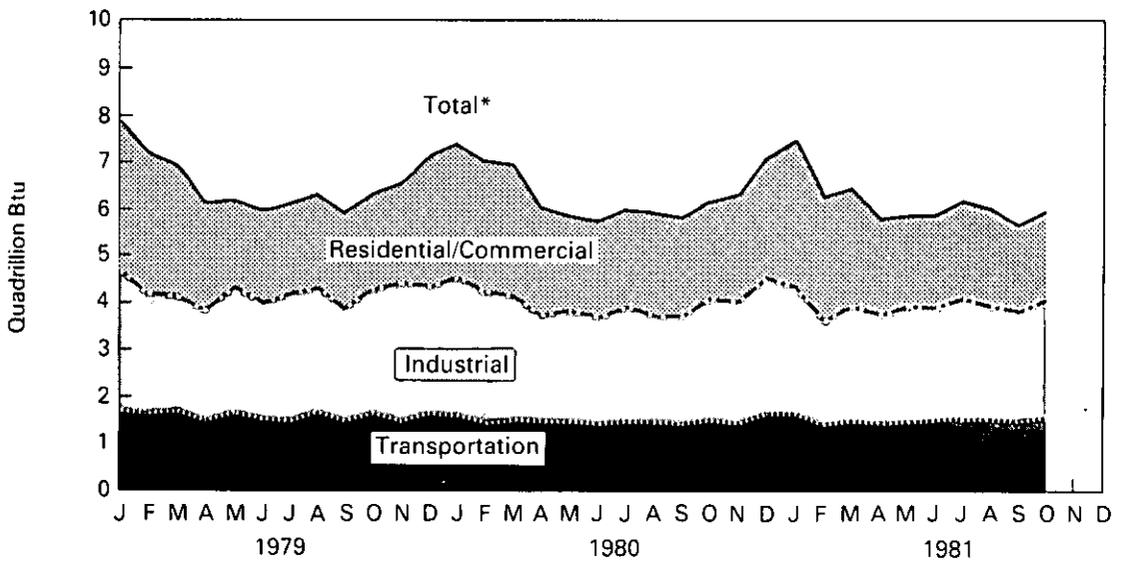
Consumption

Consumption of Energy by End-Use Sector

Yearly



Monthly



*Btu consumption for all sectors were cumulated to create total.

Consumption

Consumption of Energy by the Residential and Commercial Sector¹

		Coal	Natural Gas (Dry)	Petroleum	Electricity Sales	Electrical Energy Losses ²	Total Energy Consumed	Yearly Cumulative Energy Consumed
Quadrillion (10 ¹⁵) Btu								
1973	TOTAL	0.291	7.626	6.741	3.495	8.462	26.615	
1974	TOTAL	0.292	7.518	6.141	3.475	8.556	25.981	
1975	TOTAL	0.238	7.581	5.792	3.588	8.816	26.015	
1976	TOTAL	0.227	7.866	6.302	3.729	9.093	27.217	
1977	TOTAL	0.225	7.461	6.245	3.936	9.701	27.568	
1978	TOTAL	0.239	7.624	6.268	4.100	9.986	28.217	
1979	TOTAL	0.210	7.891	4.725	4.184	10.133	27.144	
1980	January	0.022	1.114	0.382	0.381	0.958	2.859	2.859
	February	0.019	1.192	0.357	0.375	0.874	2.818	5.676
	March	0.014	1.054	0.335	0.358	0.876	2.637	8.314
	April	0.015	0.717	0.291	0.319	0.758	2.101	10.415
	May	0.009	0.450	0.312	0.298	0.787	1.856	12.271
	June	0.007	0.329	0.325	0.334	0.888	1.883	14.154
	July	0.009	0.259	0.337	0.410	1.085	2.099	16.254
	August	0.008	0.240	0.332	0.439	1.056	2.076	18.330
	September	0.011	0.252	0.351	0.410	0.912	1.936	20.266
	October	0.015	0.370	0.374	0.343	0.824	1.925	22.191
	November	0.016	0.640	0.326	0.322	0.800	2.104	24.295
	December	0.020	1.026	0.379	0.364	0.923	2.713	27.008
	TOTAL	0.166	7.645	4.102	4.355	10.742	27.008	
1981	January	0.022	1.291	0.398	0.413	1.003	3.127	3.127
	February	0.014	1.139	0.310	0.379	0.842	2.684	5.811
	March	0.012	0.928	0.306	0.344	0.848	2.439	8.250
	April	0.014	0.605	0.282	0.315	0.761	1.976	10.226
	May	0.009	0.429	0.287	0.313	0.802	1.841	12.067
	June	0.008	0.302	R0.308	0.355	R0.939	R1.912	R13.979
	July	0.010	0.251	R0.319	0.420	R1.069	R2.069	R16.048
	August	0.009	0.243	R0.319	0.421	R1.024	R2.015	R18.063
	September	0.010	0.253	0.344	0.383	0.856	1.846	R19.910
	October	0.014	0.399	0.366	0.339	0.811	1.929	21.839
	TOTAL (Year-to-date)	0.123	5.840	3.239	3.681	8.955	21.839	

Geographic coverage: the 50 United States and District of Columbia.

Totals may not equal sum of components due to independent rounding.

¹The Residential and Commercial Sector consists of housing units, non-manufacturing business establishments (e.g., wholesale and retail businesses), health and educational institutions, and government office buildings. Notes on the methodology used for sector calculations are provided in the Notes and Sources at the end of this section.

²Proportion of total electrical energy losses incurred in the generation and transmission of electricity plus plant use and unaccounted for that are attributed to this sector.

R=Revised data.

Source: • See Notes and Sources at the end of this section.

Consumption

Consumption of Energy by the Industrial Sector¹

		Coal	Natural Gas (Dry)	Petroleum	Hydroelectric	Net Coke Imports ²	Electricity Sales	Electrical Energy Losses ³	Total Energy Consumed	Yearly Cumulative Energy Consumed
		Quadrillion (10 ¹⁵) Btu								
1973	TOTAL	4.349	10.395	6.683	0.035	(0.008)	2.341	5.678	29.472	
1974	TOTAL	4.048	10.010	6.506	0.033	0.059	2.337	5.755	28.748	
1975	TOTAL	3.797	8.533	6.160	0.032	0.014	2.304	5.669	26.510	
1976	TOTAL	3.786	8.769	6.951	0.033	0.000	2.525	6.163	28.226	
1977	TOTAL	3.498	8.643	7.692	0.033	0.015	2.635	6.510	29.026	
1978	TOTAL	3.372	8.540	7.840	0.032	0.131	2.732	6.671	29.317	
1979	TOTAL	3.636	8.554	9.263	0.034	0.066	2.873	6.970	31.396	
1980	January	0.319	0.858	0.899	0.003	0.003	0.230	0.579	2.892	2.892
	February	0.296	0.708	0.807	0.003	(0.001)	0.234	0.545	2.592	5.484
	March	0.302	0.733	0.791	0.003	(0.003)	0.236	0.576	2.636	8.121
	April	0.295	0.572	0.699	0.003	(0.005)	0.232	0.551	2.347	10.468
	May	0.286	0.602	0.685	0.003	(0.006)	0.229	0.606	2.407	12.874
	June	0.260	0.565	0.649	0.003	(0.004)	0.228	0.605	2.306	15.180
	July	0.237	0.597	0.620	0.003	(0.004)	0.224	0.592	2.268	17.448
	August	0.239	0.577	0.618	0.002	(0.003)	0.230	0.553	2.216	19.664
	September	0.233	0.667	0.676	0.002	(0.004)	0.237	0.527	2.338	22.002
	October	0.262	0.847	0.717	0.002	(0.006)	0.237	0.570	2.629	24.630
	November	0.272	0.863	0.739	0.002	(0.002)	0.231	0.574	2.679	27.310
	December	0.296	0.861	0.834	0.002	(0.001)	0.234	0.592	2.818	30.128
	TOTAL	3.297	8.451	8.734	0.033	(0.037)	2.781	6.869	30.128	
1981	January	0.310	0.706	0.794	0.003	0.000	0.229	0.557	2.598	2.598
	February	0.287	0.512	0.665	0.003	(0.001)	0.230	0.511	2.206	4.804
	March	0.290	0.679	0.678	0.003	(0.003)	0.234	0.576	2.458	7.262
	April	0.263	0.597	0.609	0.003	(0.001)	0.232	0.562	2.265	9.527
	May	0.241	0.692	0.646	0.003	0.000	0.235	0.602	2.419	11.946
	June	0.234	0.623	R0.614	0.003	(0.004)	0.244	R0.646	R2.361	R14.307
	July	0.288	0.681	R0.609	0.003	0.000	0.245	0.623	R2.448	R16.755
	August	0.262	R0.709	R0.587	0.002	0.000	0.246	R0.598	R2.404	R19.159
	September	0.262	R0.720	0.543	0.002	(0.002)	0.242	0.541	R2.308	R21.467
	October	0.262	0.836	0.556	0.002	(0.003)	0.236	0.565	2.454	23.921
	TOTAL	2.697	6.755	6.301	0.028	(0.014)	2.373	5.781	23.921	
	(Year-to-date)									

Geographic coverage: the 50 United States and District of Columbia.

Totals may not equal sum of components due to independent rounding.

¹The Industrial Sector is made up of construction, manufacturing, agriculture, and mining establishments. Notes on the methodology used for sector calculations are provided in the Notes and Sources at the end of this section.

²Net imports equals imports minus exports. Parentheses indicate exports are greater than imports.

³Proportion of total electrical energy losses incurred in the generation and transmission of electricity plus plant use and unaccounted for that are attributed to this sector.

R=Revised data.

Source: •See Notes and Sources at the end of this section.

Consumption

Consumption of Energy by the Transportation Sector¹

		Coal	Natural Gas (Dry)	Petroleum	Electricity Sales	Electrical Energy Losses ²	Total Energy Consumed	Yearly Cumulative Energy Consumed
Quadrillion (10 ¹⁵) Btu								
1973	TOTAL	0.003	0.743	17.745	0.009	0.020	18.519	
1974	TOTAL	0.002	0.685	17.309	0.009	0.021	18.026	
1975	TOTAL	0.001	0.595	17.547	0.010	0.024	18.177	
1976	TOTAL	(³)	0.559	18.469	0.010	0.025	19.063	
1977	TOTAL	(³)	0.543	19.157	0.010	0.024	19.735	
1978	TOTAL	(³)	0.539	20.044	0.009	0.021	20.613	
1979	TOTAL	(³)	0.612	19.778	0.010	0.024	20.425	
1980	January	(³)	0.069	1.604	0.001	0.002	1.676	1.676
	February	(³)	0.066	1.542	0.001	0.002	1.611	3.286
	March	(³)	0.063	1.569	0.001	0.002	1.635	4.922
	April	(³)	0.047	1.531	0.001	0.002	1.581	6.502
	May	(³)	0.041	1.529	0.001	0.002	1.573	8.075
	June	(³)	0.038	1.476	0.001	0.002	1.517	9.592
	July	(³)	0.039	1.534	0.001	0.002	1.577	11.168
	August	(³)	0.038	1.503	0.001	0.002	1.543	12.712
	September	(³)	0.039	1.473	0.001	0.002	1.515	14.227
	October	(³)	0.047	1.563	0.001	0.002	1.613	15.840
	November	(³)	0.054	1.448	0.001	0.002	1.505	17.345
	December	(³)	0.065	1.634	0.001	0.002	1.702	19.047
	TOTAL	(³)	0.607	18.404	0.011	0.025	19.047	
1981	January	(³)	0.068	1.628	0.001	0.002	1.700	1.700
	February	(³)	0.057	1.395	0.001	0.002	1.456	3.156
	March	(³)	0.058	1.500	0.001	0.002	1.561	4.716
	April	(³)	0.046	1.448	0.001	0.002	1.496	6.213
	May	(³)	0.044	1.475	0.001	0.002	1.522	7.735
	June	(³)	0.040	R1.520	0.001	0.002	R1.563	R9.298
	July	(³)	0.041	R1.546	0.001	0.002	R1.590	R10.888
	August	(³)	R0.041	R1.502	0.001	0.002	R1.546	12.435
	September	(³)	0.040	1.470	0.001	0.002	1.513	13.948
	October	(³)	0.047	1.511	0.001	0.002	1.561	15.509
	TOTAL (Year-to-date)	(³)	0.483	14.995	0.009	0.022	15.509	

Geographic coverage: the 50 United States and District of Columbia.

Totals may not equal sum of components due to independent rounding.

¹The Transportation Sector consists of both private and public passenger and freight transportation, as well as government transportation, including military operations. Notes on the methodology used for sector calculations are provided in the Notes and Sources at the end of this section.

²Proportion of total electrical energy losses incurred in the generation and transmission of electricity plus plant use and unaccounted for that are attributed to this sector.

³Since 1976 the amount of coal consumed by the Transportation Sector has been negligible.

R = Revised data.

Source: •See Notes and Sources at the end of this section.

Consumption

Consumption of Energy by the Electric Utilities

		Coal ¹	Natural Gas (Dry)	Petroleum ²	Hydro-electric power ³	Nuclear Electric Power	Other ⁴	Total Energy Consumed	Yearly Cumulative Energy Consumed
		Quadrillion (10 ¹⁵) Btu							
1973	TOTAL	8.658	3.748	3.671	2.975	0.910	0.046	20.008	
1974	TOTAL	8.535	3.519	3.499	3.276	1.272	0.056	20.156	
1975	TOTAL	8.786	3.240	3.231	3.187	1.900	0.072	20.416	
1976	TOTAL	9.720	3.152	3.454	3.032	2.111	0.081	21.549	
1977	TOTAL	10.243	3.284	4.028	2.482	2.702	0.082	22.821	
1978	TOTAL	10.236	3.297	3.813	3.132	2.977	0.068	23.523	
1979	TOTAL	11.264	3.609	3.357	3.132	2.748	0.089	24.199	
1980	January	1.073	0.285	0.292	0.282	0.213	0.008	2.152	2.152
	February	1.012	0.272	0.292	0.240	0.208	0.008	2.031	4.184
	March	0.995	0.292	0.266	0.272	0.216	0.008	2.049	6.233
	April	0.867	0.264	0.235	0.286	0.202	0.008	1.863	8.096
	May	0.883	0.290	0.223	0.319	0.198	0.010	1.924	10.019
	June	0.976	0.347	0.223	0.306	0.197	0.009	2.059	12.078
	July	1.143	0.433	0.228	0.273	0.226	0.010	2.313	14.391
	August	1.134	0.418	0.226	0.231	0.262	0.011	2.282	16.673
	September	1.021	0.368	0.228	0.210	0.254	0.010	2.091	18.764
	October	0.961	0.310	0.226	0.204	0.264	0.011	1.976	20.740
	November	0.974	0.263	0.239	0.218	0.226	0.011	1.930	22.670
	December	1.090	0.249	0.279	0.251	0.238	0.011	2.117	24.787
	TOTAL	12.127	3.792	2.956	3.092	2.704	0.114	24.787	
1981	January	1.158	0.239	0.294	0.251	0.252	0.011	2.205	2.205
	February	1.021	0.231	0.234	0.237	0.233	0.010	1.965	4.170
	March	1.031	0.281	0.213	0.233	0.237	0.011	2.006	6.176
	April	0.930	0.296	0.180	0.234	0.222	0.010	1.873	8.049
	May	0.959	0.324	0.180	0.269	0.212	0.010	1.955	10.004
	June	1.065	0.399	R0.195	0.293	0.228	0.010	R2.189	R12.192
	July	1.196	0.422	R0.202	0.280	0.249	0.011	R2.360	R14.553
	August	1.157	0.402	R0.187	0.244	0.290	0.011	R2.292	R16.844
	September	1.033	0.335	0.181	0.204	0.263	0.011	R2.026	R18.870
	October	1.018	0.311	0.186	0.207	0.221	0.011	1.954	20.824
	TOTAL (Year-to-date)	10.568	3.239	2.052	2.451	2.407	0.107	20.824	

Geographic coverage: the 50 United States and District of Columbia.

Totals may not equal sum of components due to independent rounding.

¹Includes bituminous coal, lignite, and anthracite.

²Based on deliveries to utilities.

³Includes net imports of electricity.

⁴Includes geothermal power and electricity produced from wood and waste.

R=Revised data.

Source: *See Notes and Sources at the end of this section.

Notes and Sources for the Consumption Section

1. See Explanatory Note 5 in the Explanatory Notes Section located at the end of this publication for definitions of the Residential and Commercial, Industrial, Transportation, and Electric Utilities Sectors.

2. **Coal:** Coal is anthracite, bituminous coal, and lignite.

Sources: • Anthracite—1973 through 1976: U.S. Department of the Interior (DOI), Bureau of Mines (BOM), *Minerals Yearbook*, "Coal—Pennsylvania Anthracite, Annual."
1977 forward: U.S. Department of Energy (DOE), Energy Information Administration, (EIA) *Energy Data Reports*, "Weekly Coal Report."

- Bituminous coal and lignite—1973 through 1975, U.S. DOI, BOM, *Minerals Yearbook*, "Bituminous Coal and Lignite, Annual," Federal Power Commission (FPC), Form 4, "Monthly Power Plant Report." 1976 forward: DOE, EIA, *Energy Data Reports*, "Weekly Coal Report."

- Electric Utilities consumption of coal sources: same as Note 6 below.

3. **Natural Gas:** Total natural gas consumption is estimated monthly based on a supply disposition balance calculation. Residential and Commercial Sector monthly consumption is estimated by allocating the EIA annual Residential and Commercial Sectors consumption to the months in proportion to the American Gas Association (AGA) monthly sales to the Residential and Commercial Sectors. For incomplete years, the AGA monthly sales data are used temporarily. Monthly Transportation Sector consumption (which is natural gas for pipeline use) for complete years is estimated by allocating the EIA annual Transportation total to the months based on each month's total natural gas consumption as a share of the annual total natural gas consumption. For incomplete years, each month's Transportation total is estimated by applying the percentage of total natural gas accounted for by the Transportation Sector in the same month a year ago to the current month's total natural gas consumption. The Electric Utility consumption of natural gas is available monthly from Form 4, "Monthly Power Plant Report." Each month's Industrial Sector consumption is estimated by subtracting the Residential and Commercial, Transportation, and Electric Utilities Sectors consumption from the total natural gas consumption.

Sources: • 1973 through 1975: DOI, BOM, *Minerals Yearbook*, "Natural Gas" chapter.

- 1976 forward: DOE, *Energy Data Reports*, "Natural Gas Production and Consumption."

- Electric Utilities consumption: 1973 through 1976, FPC, Form 4, "Monthly Power Plant Report." 1977 forward: DOE, EIA, FPC, Form 4, "Monthly Power Plant Report."

- American Gas Association, "Monthly Gas Utility Statistical Report."

4. **Petroleum:** Petroleum consumption by end-use is the sum of all individual petroleum products consumed in each end-use. First, total consumption by product is determined. Petroleum consumption in this section of the *Monthly Energy Review* uses the series called "products supplied" in the Petroleum Section.

Sources for petroleum products supplied by individual products are:

- 1973 through 1975: DOI, BOM, *Mineral Industry Surveys*, "Petroleum Statement, Annual."

- 1976 through 1979: DOE, EIA, *Energy Data Reports*, "Petroleum Statement, Annual."

- 1980 forward: DOE, EIA, *Energy Data Reports*, "Petroleum Statement, Monthly,"

DOE, EIA, "Monthly Petroleum Statistics Report," and

DOE, EIA, estimates for current months where above sources are not yet available.

Each product's total is allocated to end-use sectors as follows:

- Aviation gasoline—All to the Transportation Sector.

- Asphalt and road oil—All to the Commercial Sector for use by government in road maintenance.

- Distillate fuel—Allocated to the major end-use sectors in proportion to the sales of distillate fuel sold to each sector as reported for 1973 through 1975 in the DOI, BOM, *Mineral Industry Surveys*, "Fuel Oil Sales, Annual," and for 1976 through 1979 in the DOE, EIA, *Energy Data Reports*, "Fuel Oil Sales, Annual." In summary, the sectors' proportions are created from sales groupings as follows:

—Residential and Commercial is sales for heating;

—Industrial is sales for industrial use, oil company use, and for miscellaneous use except for that part of the miscellaneous use which is diesel used on the highway and is part of the Transportation Sector;

—Transportation is sales for vessel bunkering, military, railroads, and diesel used on the highway (from the U.S. Department of Transportation, Federal Highway Administration, *Highway Statistics*, since 1979); and

—Electric Utility is the sales to the electric utilities (except since 1979 when it is deliveries to the electric utilities from the FPC Form 423).

The 1979 shares are used as estimates for succeeding periods until sales after 1979 are developed.

- Jet fuel—small amounts in 1975 through 1977 are used in industrial and small amounts in all months are consumed by the electric utilities. All remaining jet fuel is allocated to the Transportation Sector.

- Kerosene—Allocated to the major end-use sectors in proportion to the sales of kerosene sold to the Residential and Commercial Sector and the Industrial Sector as reported for 1973 through 1975 in the DOI, BOM, *Mineral Industry Surveys*, "Fuel Oil Sales, Annual," and for 1976 through 1979 in the DOE, EIA, *Energy Data Reports*, "Fuel Oil Sales, Annual":

—Residential and Commercial is sales for heating in the "Fuel Oil Sales, Annual."

—Industrial is sales for "All Other Uses" in the "Fuel Oil Sales, Annual."

The 1979 shares are used as estimates for succeeding periods until sales after 1979 are developed.

- Liquefied petroleum gases (LPG)—Allocated to the major end-use sectors in proportion to the sales of LPG sold to each sector as reported for 1973 through 1975 in the DOI, BOM, *Mineral Industry Surveys*, "Fuel Oil Sales, Annual," and for 1976 through 1979 in the DOE, EIA, *Energy Data Reports*, "Fuel Oil Sales, Annual." In summary, the sectors' proportions are created from sales groupings as follows:

—Residential and Commercial is sales for residential and commercial use;

—Industrial is sales for industrial use, for miscellaneous uses, to utility gas companies, to chemical plants, and 84 percent of LPG sold for use as internal combustion engine fuel use; and

—Transportation is the remaining 16 percent of LPG sold for use as internal combustion fuel use.

The 1979 shares are used as estimates for the succeeding periods until sales after 1979 are developed.

- Lubricants—Allocated to the Industrial Sector and Transportation Sector for all months according to proportions of sales to those sectors from U.S. Department of Commerce, Bureau of the Census, *Current Industrial Reports*, "Sales of Lubricating and Industrial Oils and Greases." The 1973 shares are applied to 1973 and 1974; the 1975 shares are applied to 1975 and 1976; and the 1977 shares are applied from 1977 forward.

- Motor gasoline—the DOE motor gasoline consumption data are allocated to end-use according to shares derived from the U.S. Department of Transportation, Federal Highway Administration, *Highway Statistics*, Tables MF-21, MF-24 and MF-25. In summary, the sectors' proportions are created from sales groupings as follows:

—Residential and Commercial is sales for construction use, for miscellaneous use, for public non-highway use, and for unclassified use;

Notes and Sources for the Consumption Section (continued)

- Industrial is sales for agriculture and industrial and commercial use as classified in the *Highway Statistics*; and
 - Transportation is sales for highway use (minus the sales of special fuels which is primarily diesel fuel and is accounted for in the Transportation Sector of distillate fuel) and sales for marine use.
 - Petroleum coke consumed by the Electric Utilities—FPC, Form 4, "Monthly Power Plant Report." All other petroleum coke is allocated to the Industrial Sector.
 - Residual fuel—Allocated to the major end-use sectors in proportion to the sales of residual fuel sold to each sector as reported for 1973 through 1975 in the DOI, BOM, *Mineral Industry Surveys*, "Fuel Oil Sales, Annual," and for 1976 through 1979 in the DOE, EIA, *Energy Data Reports*, "Fuel Oil Sales, Annual." In summary, the sectors' proportions are created from sales groupings as follows:
 - No allocation for Residential Sector;
 - Sales for heating is assigned to the Commercial Sector;
 - Industrial Sector sales is the sum of sales for industrial use, oil company use, and miscellaneous uses;
 - Transportation Sector sales is the sum of sales for vessel bunkering, military, and railroads; and
 - Electric Utility is the sales to the electric utilities (except since 1979 when it is deliveries to the electric utilities from the FPC Form 423).The 1979 shares are used as estimates for succeeding periods until sales after 1979 are developed.
 - All other products are allocated to the Industrial Sector.
- 5. Hydroelectric:** Includes electricity generated by hydropower at electric utilities, small amounts in the Industrial Sector, and net imports of electricity, which are assumed to be generated by hydropower and are included in the hydroelectricity in the Electric Utility Sector.
- Sources for Electric Utility Sector:*
- 1973 through 1976, FPC, Form 4, "Monthly Power Plant Report."
 - 1977 forward: DOE, EIA, FPC, Form 4, "Monthly Power Plant Report."
- Sources for Industrial Sector:*
- 1973 through 1978: FPC Forms 4 and 12-C.
 - 1979: FPC Form 4 and EIA estimates.
 - 1980 forward: EIA estimates.
- Note: For 1977 forward, monthly data are not available from above sources and were estimated by seasonalizing the annual numbers in proportion to each month's hydroelectricity generation in the Electric Utility Sector.
- Sources for Imports and Exports of Electricity:* Annual Data from DOE, Economic Regulatory Administration, "Report on Electric Energy Exchanges with Canada and Mexico." Monthly estimates are derived from annual data by dividing by the number of days in the year and multiplying by the number of days in the month. 1979 estimates are used for succeeding periods until later estimates are developed.
- 6. Nuclear:** *Sources:* ● 1973 through 1976: FPC, Form 4, "Monthly Power Plant Report."
● 1977 forward: DOE, EIA, FPC, Form 4, "Monthly Power Plant Report."
- 7. Net Coke Imports:** Net coke imports is coke made from coal.
Sources: ● 1973 through 1975, DOI, BOM, *Minerals Yearbook*, "Coke and Coal Chemicals, Annual."
● 1976 forward: DOE, EIA, *Energy Data Reports*, "Coke and Coal Chemicals, Monthly."
- 8. Other Energy:** "Other" is electricity produced from geothermal power and from wood and waste. *Sources:* same as Note 6 above, for Nuclear.
- 9. Electricity Sales:** The total energy consumed by electric utilities to generate and transmit electricity to the end-users, including all losses, is allocated to the major end-users in proportion to the sales of electricity to the end-use sectors. "Other" sales, largely for use in government buildings, is allocated to the Residential and Commercial Sector, and about 4.2 percent of "Other" is for railroad usage and is counted in the Transportation Sector.
Source of sales data: 1973 through February 1980: FPC, Form 5, "Monthly Statement of Electric Operating Revenue and Income."
March 1980 forward: FERC Form 5, "Electric Utility Company Monthly Statement."
- 10. Electrical Energy Losses:** In generating electricity with nuclear or fossil fuels, approximately 65 percent of the energy is lost in the form of heat. Transmission and distribution losses consume about an additional 3 percent of the energy inputs of the utility industry. In order to fully account for all energy consumed both directly and indirectly (i.e., utilities energy disposition), the electricity losses are allocated to the final end-use sectors in proportion to their direct kilowatt-hour usage, i.e., sales.

Crude Oil and Refined Petroleum Products*

Domestic crude oil production during November 1981 averaged 8.6 million barrels per day. This production rate was 1.3 percent above the rate in November 1980 and 1.2 percent higher than in October 1981.

Total petroleum imports averaged 5.5 million barrels per day in November 1981, 12.1 percent less than the November 1980 rate and 3.6 percent higher than in October 1981.

In November 1981, 16.2 million barrels per day of petroleum products were supplied for domestic use. Motor gasoline accounted for 41.0 percent of the total, distillate fuel oil 18.6 percent, and residual fuel oil 12.3 percent.

Motor gasoline supplied during November 1981 averaged 6.6 million barrels per day, 0.5 percent higher than in October 1981.

In November 1981, 3.0 million barrels of distillate fuel oil were supplied per day, 8.5 percent higher than the October 1981 rate. Distillate fuel oil stocks were 192.9 million barrels at the end of November 1981, 4.1 percent lower than at the end of the previous month.

Residual fuel oil supplied in November 1981 averaged 2.0 million barrels per day, 9.8 percent higher than in October 1981. Residual fuel oil stocks measured 78.4 million barrels at the end of November 1981, 2.1 percent lower than during the previous month.

*Estimates for the most recent month are based on Energy Information Administration (EIA) weekly data (except crude production) and will be revised to conform with data from the EIA Petroleum Reporting System as available. For the most recent month, crude production is an EIA estimate based on provisional data for August 1981. The total petroleum import data exclude imports into the Strategic Petroleum Reserve.

Petroleum

Crude Oil

	Crude Input to Refineries	Total Domestic Production ^{1, 2}	Alaskan Production	Crude Oil Imports ³	Strategic Petroleum Reserve (SPR) Imports	Crude Oil Exports	Primary Crude Oil Stocks ^{1, 3}	Strategic Petroleum Reserve (SPR) Stocks
	Thousand barrels per day				Thousand barrels			
1973 AVERAGE	12,431	9,208	198	3,244		2	‡242,478	
1974 AVERAGE	12,133	8,774	193	3,477		3	‡265,020	
1975 AVERAGE	12,442	8,375	191	4,105		6	‡271,354	
1976 AVERAGE	13,416	8,132	173	5,287		8	‡285,471	
1977 AVERAGE	14,602	8,245	464	6,594	20	50	‡339,857	‡7,540
1978 AVERAGE	14,739	8,707	1,229	6,195	162	158	‡309,421	‡66,860
1979 AVERAGE	14,648	8,552	1,401	6,452	67	235	‡339,074	‡91,191
1980								
January	14,298	8,648	1,634	6,359	0	311	353,611	91,191
February	14,189	8,696	1,630	5,936	0	310	361,648	91,191
March	13,709	8,712	1,647	5,785	0	323	361,742	91,191
April	13,484	8,688	1,649	5,555	0	216	379,352	91,191
May	13,326	8,640	1,628	5,071	0	308	383,902	91,191
June	13,705	8,547	1,626	5,480	0	365	382,035	91,191
July	13,251	8,555	1,612	4,645	0	238	379,280	91,191
August	13,011	8,422	1,612	4,723	0	78	387,605	91,191
September	13,312	8,619	1,610	4,653	54	322	375,989	92,824
October	12,777	8,536	1,588	4,570	131	309	378,488	96,645
November	13,119	8,499	1,561	4,524	142	289	372,811	102,320
December	13,648	8,609	1,602	4,848	198	343	357,702	107,800
AVERAGE	13,483	8,597	1,617	5,177	44	284		
1981								
January	13,248	8,533	1,606	4,817	106	339	376,456	112,490
February	12,903	8,598	1,619	4,793	80	198	386,793	116,057
March	12,383	8,601	1,618	4,382	140	210	397,191	120,860
April	12,090	8,543	1,608	4,185	272	198	407,182	134,170
May	12,309	8,496	1,580	3,881	386	312	402,273	150,068
June	R12,415	R8,616	R1,632	R3,766	318	123	R392,211	163,081
July	R12,267	R8,422	R1,605	R4,161	175	257	R392,514	173,128
August	R12,911	R8,576	R1,602	3,908	257	204	R365,219	184,674
September†	12,517	8,620	1,618	4,279	435	194	361,748	199,247
October†	R12,037	8,506	1,603	R3,885	R453	226	R369,028	R214,777
November†	12,296	8,611	1,620	3,913	241	NA	377,150	222,571
AVERAGE	12,487	8,556	1,610	4,175	261	NA		

Geographic coverage: the 50 United States and District of Columbia.

¹Includes lease condensate.

²Includes Alaskan production.

³Excludes Strategic Petroleum Reserve storage that began in October 1977.

‡Total as of December 31. †Preliminary data. R=Revised data. NA=Not available.

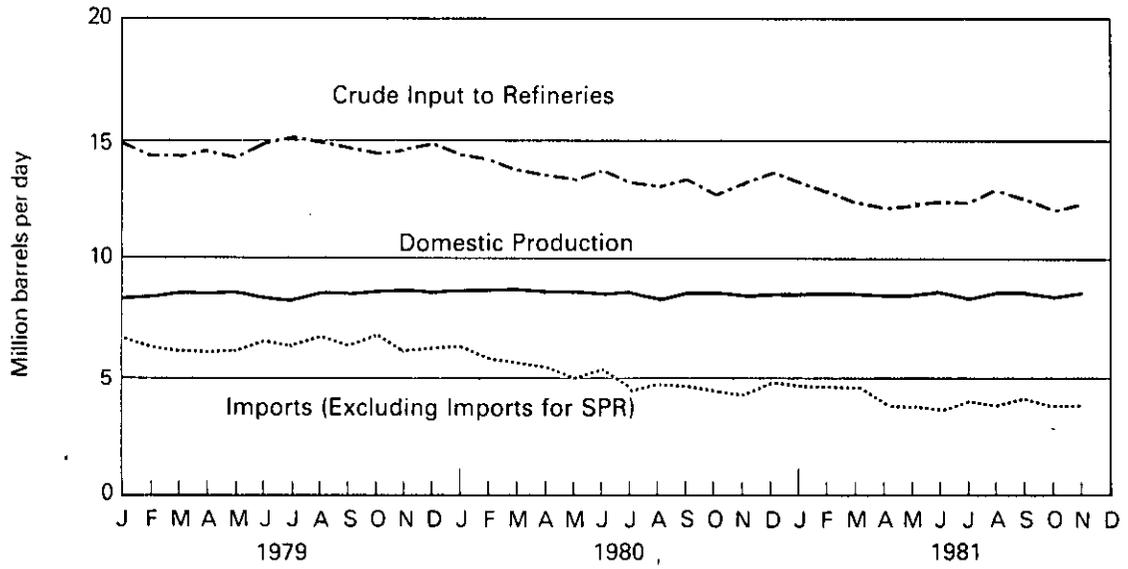
Note: Estimated data are in italics and are likely to be revised.

Sources: *See Sources at the end of this section.

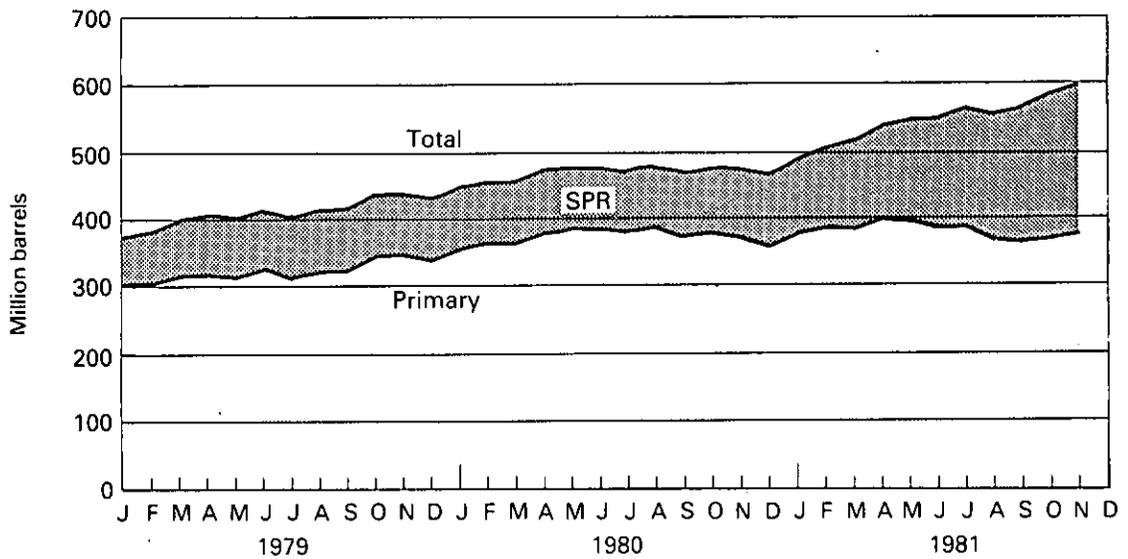
Petroleum

Crude Oil

Production, Refinery Input and Imports



Stocks



Petroleum

		Total Petroleum Products ¹			Total Crude Oil and Petroleum Products Trade				
		Products Supplied ¹	Product Imports ²	Product Exports	Total Imports (Excluding SPR)	SPR Imports ³	Total Imports (Including SPR) ³	Total Exports	Net Imports
		Thousand barrels per day			Thousand barrels per day				
1973	AVERAGE	17,308	3,012	229	6,256			231	6,025
1974	AVERAGE	16,653	2,635	218	6,112			221	5,892
1975	AVERAGE	16,322	1,951	204	6,056			209	5,846
1976	AVERAGE	17,461	2,026	215	7,313			223	7,090
1977	AVERAGE	18,431	2,193	193	8,787	20	8,807	243	8,565
1978	AVERAGE	18,847	2,008	204	8,202	162	8,363	362	8,002
1979	AVERAGE	18,513	1,937	236	8,389	67	8,456	471	7,985
1980	January	18,656	1,983	228	8,342	0	8,342	539	7,803
	February	18,815	1,911	227	7,847	0	7,847	536	7,311
	March	17,385	1,724	243	7,509	0	7,509	566	6,943
	April	16,724	1,430	241	6,985	0	6,985	457	6,528
	May	16,143	1,478	266	6,549	0	6,549	573	5,975
	June	16,214	1,413	288	6,893	0	6,893	654	6,239
	July	15,962	1,401	292	6,046	0	6,046	530	5,516
	August	15,727	1,379	241	6,102	0	6,102	319	5,784
	September	16,548	1,475	235	6,129	54	6,183	557	5,626
	October	16,911	1,603	288	6,173	131	6,303	598	5,706
	November	16,694	1,729	260	6,252	142	6,395	549	5,846
	December	18,354	1,812	279	6,660	198	6,858	622	6,236
	AVERAGE	17,006	1,611	258	6,787	44	6,831	542	6,290
1981	January	18,288	1,892	219	6,709	106	6,814	558	6,257
	February	16,930	1,904	371	6,697	80	6,777	569	6,208
	March	15,838	1,505	376	5,886	140	6,026	586	5,440
	April	15,280	1,310	372	5,495	272	5,767	570	5,198
	May	15,196	1,436	283	5,317	386	5,702	595	5,107
	June	R15,996	R1,338	R297	R5,104	318	R5,422	R420	R5,002
	July	R15,713	R1,473	314	R5,634	175	R5,809	571	R5,238
	August	R15,236	R1,572	440	R5,480	257	R5,737	644	R5,093
	September†	15,397	1,528	325	5,808	435	6,243	519	5,724
	October†	R15,380	R1,417	512	R5,302	R453	R5,756	738	5,018
	November†	16,167	1,580	NA	5,494	241	5,735	NA	NA
	AVERAGE	15,941	1,539	NA	5,715	261	5,976	NA	NA

Geographic coverage: 50 United States and District of Columbia.
Totals may not equal sum of components due to independent rounding.

¹See Definitions.

²Includes plant condensate, natural gasoline, and unfinished oils.

³Strategic Petroleum Reserve storage began in October 1977.

†Preliminary data. R=Revised data. NA=Not available.

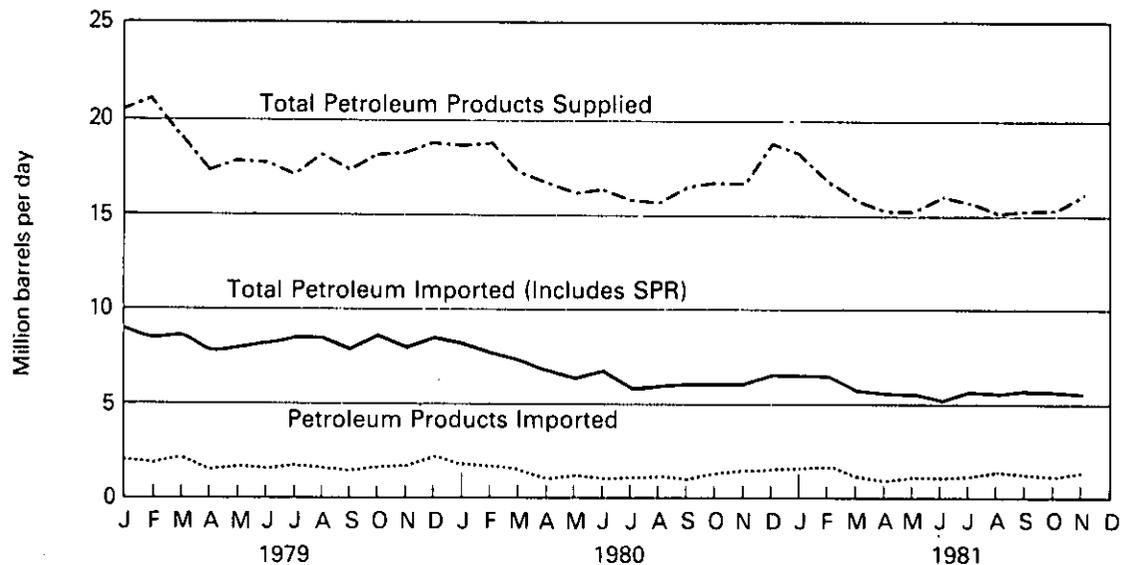
Note: Estimated data are in italics and are likely to be revised.

Sources: *See Sources at the end of this section.

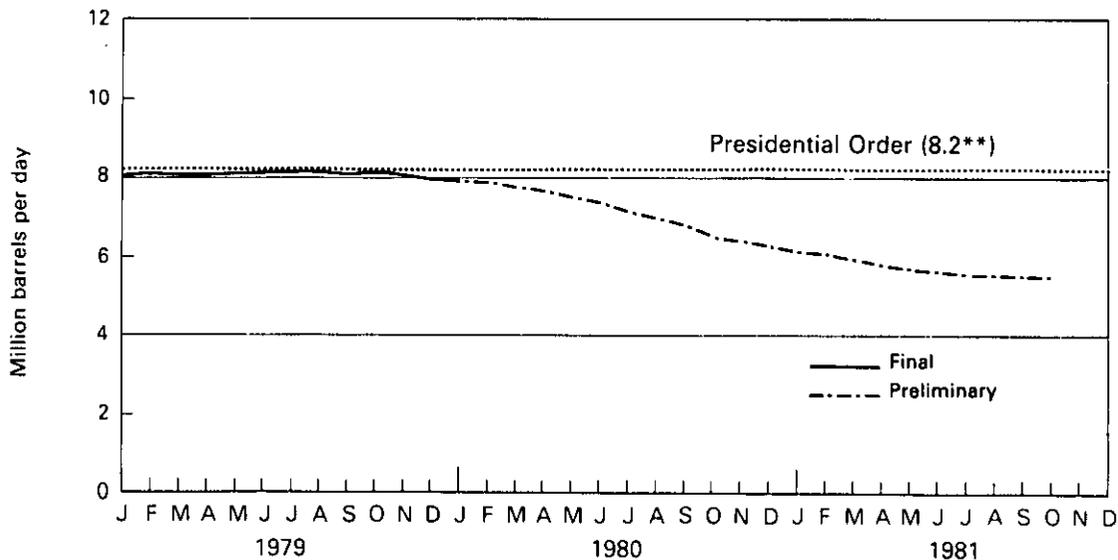
Petroleum

Products Supplied and Imports

Products Supplied and Imports



Net Imports* of Crude Oil and Refined Products
(Average for the Latest 12 Months)



* Includes SPR.

** In his January 1980 State of the Union address, President Carter announced his revised net import ceiling of 8.2 million barrels per day for 1980. The figure was previously 8.5 million barrels per day.

Petroleum

Petroleum Imports from OPEC Sources

	Algeria	Indonesia	Iran	Libya	Nigeria	Saudi Arabia	United Arab Emirates	Venezuela	Other OPEC ¹	Total OPEC	Arab Members of OPEC ²
Thousand barrels per day											
1973											
AVERAGE	136	213	223	164	459	486	71	1,135	106	2,993	915
1974											
AVERAGE	190	300	469	4	713	461	74	979	88	3,280	752
1975											
AVERAGE	282	390	280	232	762	715	117	702	122	3,601	1,383
1976											
AVERAGE	432	539	298	453	1,025	1,230	254	700	134	5,066	2,424
1977											
AVERAGE	559	541	535	723	1,143	1,380	335	690	287	6,193	3,185
1978											
AVERAGE	649	573	555	654	919	1,144	385	645	226	5,751	2,963
1979											
AVERAGE	636	420	304	658	1,080	1,356	281	690	212	5,637	3,056
1980											
January	484	433	80	617	1,054	1,562	202	583	179	5,195	3,001
February	639	317	9	603	1,013	1,399	304	543	140	4,967	3,016
March	472	405	0	654	924	1,390	370	352	175	4,742	2,979
April	556	374	0	683	722	1,294	150	339	228	4,346	2,866
May	441	360	0	468	955	1,149	172	405	132	4,083	2,314
June	497	331	0	561	998	1,327	178	409	105	4,408	2,598
July	537	308	0	492	721	1,179	158	411	55	3,861	2,378
August	432	289	0	431	770	1,136	142	397	98	3,695	2,205
September	375	299	0	505	735	1,112	107	425	111	3,670	2,185
October	463	348	0	476	716	1,043	182	482	52	3,762	2,178
November	493	348	0	500	599	1,201	105	595	78	3,920	2,339
December	417	280	0	641	958	1,300	83	610	101	4,391	2,460
AVERAGE	483	341	8	552	847	1,257	179	463	121	4,251	2,541
1981											
January	324	424	0	500	908	1,297	93	556	27	4,129	2,214
February	381	407	0	468	866	1,122	93	466	92	3,895	2,064
March	352	328	0	485	771	1,027	47	360	54	3,425	1,911
April	263	314	0	496	826	1,056	85	237	42	3,317	1,916
May	393	277	0	443	664	929	17	317	124	3,164	1,792
June	R390	R355	0	380	R519	865	60	R248	118	R2,934	R1,736
July	R333	R340	0	R251	R651	1,073	80	R502	38	R3,269	R1,757
August	R348	R377	0	274	R321	R1,068	61	R514	84	R3,047	R1,751
September†	341	371	0	154	323	1,457	96	359	149	3,249	2,047
October†	231	427	0	146	412	1,296	90	375	172	3,149	1,763
AVERAGE	335	362	0	359	624	1,119	72	394	90	3,354	1,893

Geographic coverage: the 50 United States and District of Columbia.

Totals may not equal sum of components due to independent rounding.

¹Includes Ecuador, Gabon, Iraq, Kuwait, and Qatar.

²Includes Algeria, Libya, Saudi Arabia, United Arab Emirates, Iraq, Kuwait, and Qatar.

†Preliminary data. R=Revised data.

Note: Beginning in October 1977, Strategic Petroleum Reserve imports are included.

Sources: • See Sources at the end of this section.

Petroleum

Petroleum Imports from Non-OPEC Sources

	Bahamas	Canada	Mexico	Netherlands Antilles	Puerto Rico	Trinidad and Tobago	Virgin Islands	Other ¹	Total
Thousand barrels per day									
1973									
AVERAGE	174	1,325	16	585	99	255	329	480	3,263
1974									
AVERAGE	164	1,070	8	511	90	251	391	347	2,832
1975									
AVERAGE	152	846	71	332	90	242	406	314	2,454
1976									
AVERAGE	118	599	87	275	88	274	422	382	2,247
1977									
AVERAGE	171	517	179	211	105	289	466	676	2,614
1978									
AVERAGE	160	467	318	229	94	253	429	663	2,613
1979									
AVERAGE	147	538	439	231	92	190	431	751	2,819
1980									
January	175	569	545	289	56	239	467	806	3,147
February	111	540	463	205	95	192	522	752	2,880
March	124	460	460	184	81	189	443	827	2,767
April	56	411	546	231	63	143	418	771	2,639
May	77	419	576	184	88	221	303	597	2,466
June	77	408	627	196	91	160	315	611	2,485
July	43	378	434	242	90	180	365	454	2,185
August	62	319	646	255	85	159	254	627	2,407
September	58	403	549	213	52	205	343	690	2,513
October	70	473	604	238	107	114	359	577	2,542
November	22	470	458	267	108	157	391	602	2,475
December	54	502	445	212	109	149	423	573	2,467
AVERAGE	78	446	530	226	85	176	383	656	2,580
1981									
January	39	543	401	197	89	150	494	771	2,686
February	84	546	437	227	46	163	481	897	2,881
March	74	471	488	227	45	93	370	832	2,601
April	68	410	440	198	40	139	365	806	2,467
May	122	366	522	213	58	105	344	807	2,538
June	R51	R352	R537	196	67	124	262	R898	R2,488
July	77	R381	R384	212	50	R177	206	R1,053	R2,540
August	R69	R378	R489	255	68	123	184	R1,125	R2,691
September†	100	380	675	159	72	169	265	1,174	2,994
October†	57	389	634	153	60	121	303	893	2,611
AVERAGE	74	421	501	203	60	136	326	926	2,647

Geographic coverage: the 50 United States and District of Columbia.

Totals may not equal sum of components due to independent rounding.

¹Includes Non-OPEC Arab, Western Europe, Angola, U.S.S.R., Rumania, other Western Hemisphere and other Eastern Hemisphere.

†Preliminary data. R=Revised data.

Note: Beginning in October 1977, Strategic Petroleum Reserve imports are included.

Sources: *See Sources at the end of this section.

Petroleum

Motor Gasoline

	Product Supplied ¹			Refinery Production ^{1 3}	Imports ^{1 2}		Exports	Stocks ^{1 2 3}	
	Total	Unleaded	Unleaded Percent of Total		Total Motor Gasoline	Finished Motor Gasoline		Total Motor Gasoline	Finished Motor Gasoline
	Thousand barrels per day				Thousand barrels				
1973									
AVERAGE	6,674	NA	NA	6,527	134		4	‡209,395	
1974									
AVERAGE	6,537	NA	NA	6,358	204		2	‡218,346	
1975									
AVERAGE	6,675	NA	NA	6,518	184		2	‡234,925	
1976									
AVERAGE	6,978	NA	NA	6,838	131		3	‡231,387	
1977									
AVERAGE	7,177	1,976	27.5	7,031	217		2	‡257,578	
1978									
AVERAGE	7,412	2,521	34.0	7,167	190		1	‡237,956	
1979									
AVERAGE	7,034	2,798	39.8	6,837	181		(s)	‡237,082	
1980									
January	6,335	2,718	42.9	6,977	141		1	262,134	
February	6,594	2,969	45.0	6,851	153		(s)	274,422	
March	6,411	3,032	47.3	6,512	154		(s)	282,688	
April	6,799	3,021	44.4	6,268	152		1	271,729	
May	6,726	2,980	44.3	6,294	132		1	262,938	
June	6,661	3,099	46.5	6,552	148		1	264,583	
July	6,735	3,131	46.5	6,446	149		3	260,711	
August	6,646	3,135	47.2	6,437	141		1	259,013	
September	6,511	3,054	46.9	6,369	106		7	258,135	
October	6,662	3,110	46.7	6,124	152		1	246,422	
November	6,237	3,123	50.1	6,456	126		(s)	257,059	
December	6,628	3,421	51.6	6,632	121		1	261,327	
AVERAGE	6,579	3,067	46.6	6,492	140		1		
1981									
January	6,389	3,113	48.7	6,677	152	138	(s)	276,511	226,686
February	6,293	3,100	49.3	6,269	121	111	1	283,983	229,465
March	6,303	3,095	49.1	6,202	200	170	(s)	284,859	231,977
April	6,585	3,278	49.8	6,110	195	174	(s)	271,782	223,240
May	6,608	3,117	47.2	6,119	159	146	1	258,187	212,729
June	R7,001	R3,418	R48.8	R6,219	195	161	1	R241,671	R194,200
July	R6,817	R3,417	50.1	R6,415	R124	R118	(s)	R227,131	R185,451
August	R6,645	R3,343	50.3	R6,614	R167	R125	3	R232,474	R188,333
September†	6,686	3,325	49.7	6,591	193	169	2	236,831	190,465
October†	R6,601	3,254	49.3	R6,454	R161	143	3	R235,053	190,311
November†	6,634	NA	NA	6,657	158	NA	NA	244,297	NA
AVERAGE	6,598	NA	NA	6,394	166	NA	NA		

Geographic coverage: the 50 United States and District of Columbia.

¹Beginning in January 1981, the Energy Information Administration modified its monthly petroleum surveys. Non-refinery blenders were added to the reporting universe and gasohol was included as a motor gasoline component. On the new basis motor gasoline production and product supplied during the last half of 1980 would have averaged 289,000 barrels per day higher than shown.

²Total motor gasoline includes finished motor gasoline and blending components.

³See Definitions.

‡Total as of December 31. †Preliminary data. R=Revised data. NA=Not available. (s)=Less than 500 barrels per day.

Note: Estimated data are in italics and are likely to be revised.

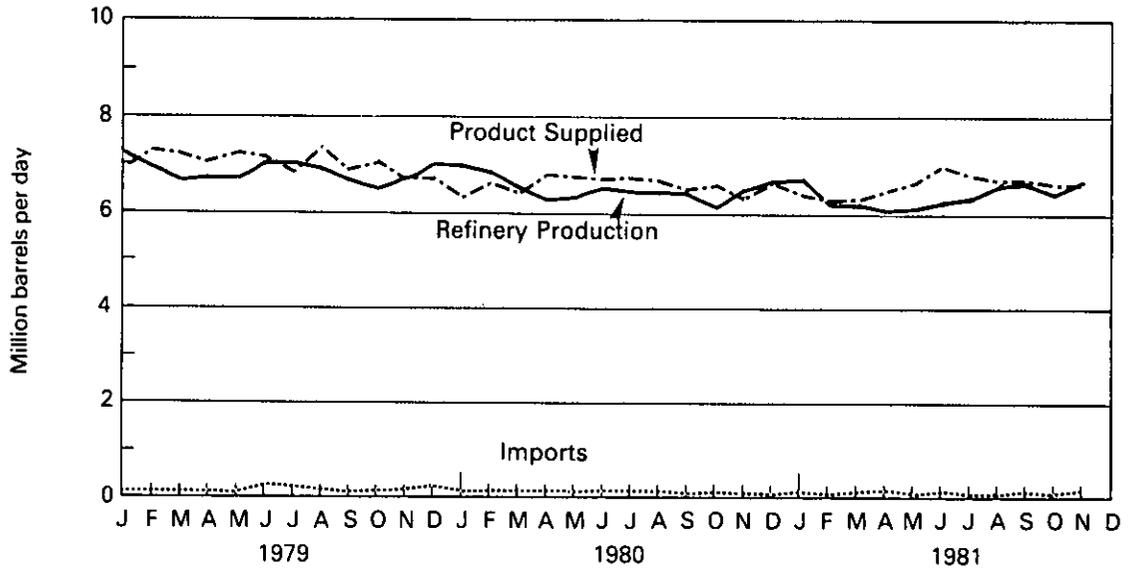
Note: Bureau of Mines' stock coverage was expanded at the end of 1974 to include an additional 100 bulk terminal operators; the new coverage begins here with 1975.

Sources: •See Sources at the end of this section.

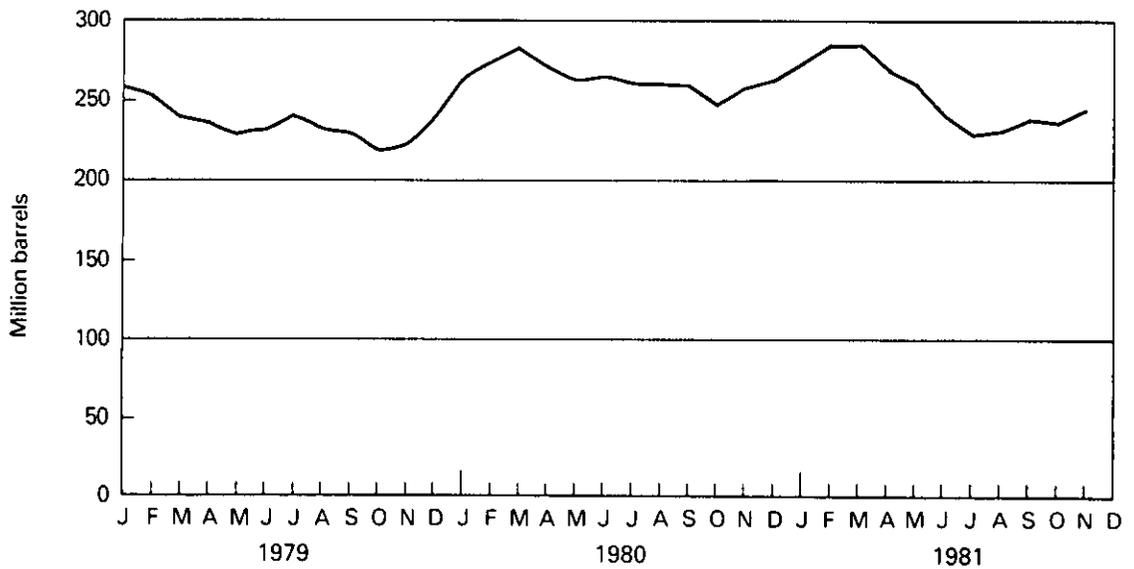
Petroleum

Motor Gasoline

Product Supplied, Refinery Production and Imports



Stocks



Petroleum

Jet Fuel

		Product Supplied	Refinery Production	Imports	Exports	Stocks	
		Thousand barrels per day				Thousand barrels	
1973	AVERAGE	1,059	859	212	4	‡28,544	
1974	AVERAGE	993	836	163	3	‡29,435	
1975	AVERAGE	1,001	871	133	2	‡30,380	
1976	AVERAGE	987	918	76	2	‡32,085	
1977	AVERAGE	1,039	973	75	2	‡34,548	
1978	AVERAGE	1,057	970	86	1	‡33,665	
1979	AVERAGE	1,076	1,012	78	1	‡38,520	
1980	January	1,101	1,004	95	1	38,412	
	February	1,072	1,026	43	2	38,258	
	March	1,116	1,031	99	2	38,661	
	April	1,105	1,023	107	3	39,339	
	May	1,015	1,001	79	2	41,310	
	June	1,057	1,004	86	1	42,283	
	July	1,110	974	93	2	40,902	
	August	1,043	959	67	1	40,331	
	September	1,056	1,041	77	1	42,159	
	October	1,037	977	93	1	43,177	
	November	1,029	988	66	1	43,921	
	December	1,083	962	60	1	42,031	
		AVERAGE	1,069	999	81	1	
1981	January	1,060	956	12	1	39,478	
	February	1,016	949	41	1	38,726	
	March	1,055	995	76	(s)	39,206	
	April	965	960	55	1	40,690	
	May	924	1,006	47	1	44,668	
	June	R1,038	R993	R68	(s)	R45,372	
	July	R1,086	R1,038	35	1	R44,926	
	August	R1,025	R977	R47	1	R44,899	
	September†	1,027	937	30	1	43,498	
	October†	R939	R906	R7	(s)	R42,665	
	November†	981	957	8	NA	42,445	
		AVERAGE	1,011	971	39	NA	

Geographic coverage: the 50 United States and District of Columbia.

‡Total as of December 31. †Preliminary data. R=Revised data. NA=Not available. (s)=Less than 500 barrels per day.

Note: Estimated data are in italics and are to be revised.

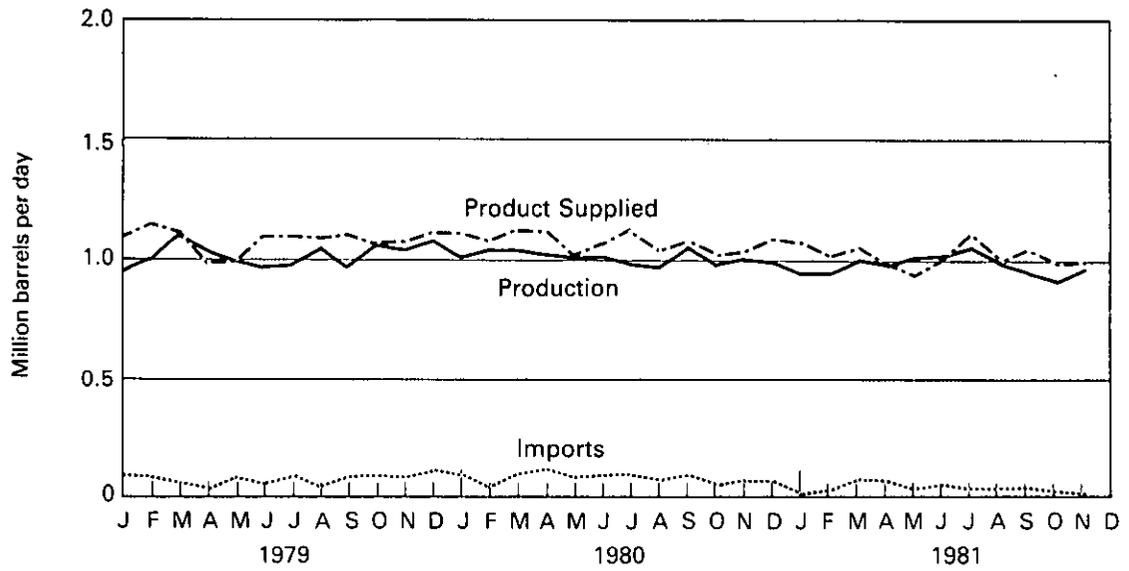
Note: Bureau of Mines' stock coverage was expanded at the end of 1974 to include an additional 100 bulk terminal operators; the new coverage begins here with 1975.

Sources: *See Sources at the end of this section.

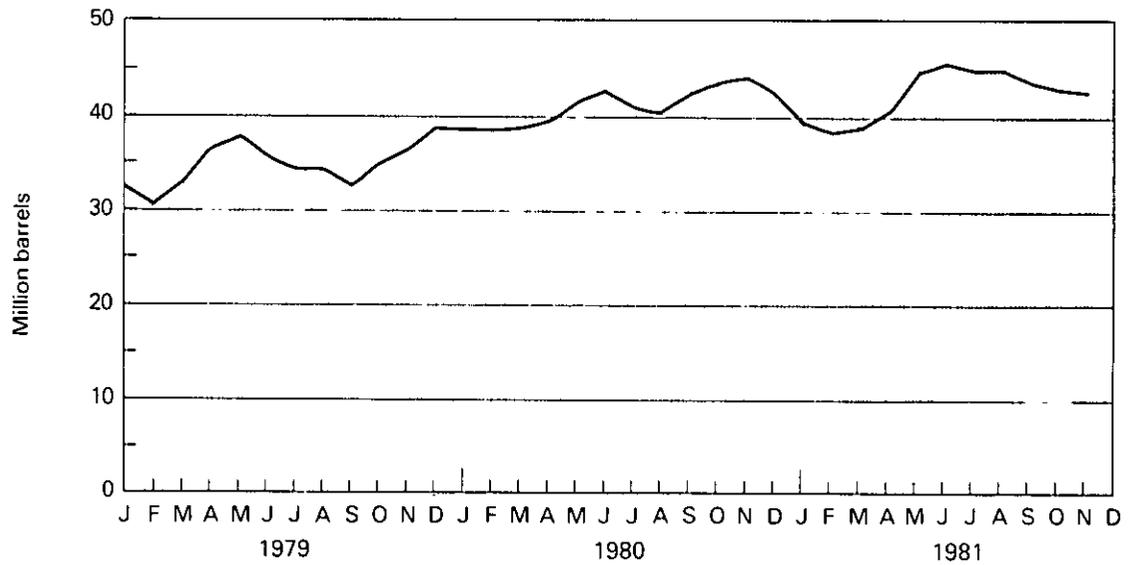
Petroleum

Jet Fuel

Product Supplied, Refinery Production and Imports



Stocks



Petroleum

Distillate Fuel Oil

		Product Supplied ¹	Refinery Production ^{1 2}	Imports	Exports	Stocks ²
		Thousand barrels per day				Thousand barrels
1973	AVERAGE	3,092	2,820	392	9	‡196,421
1974	AVERAGE	2,948	2,668	289	2	‡200,029
1975	AVERAGE	2,851	2,653	155	1	‡208,787
1976	AVERAGE	3,133	2,924	146	1	‡185,948
1977	AVERAGE	3,352	3,277	250	1	‡250,260
1978	AVERAGE	3,432	3,167	173	3	‡216,439
1979	AVERAGE	3,311	3,152	193	3	‡228,712
1980	January	3,732	3,023	179	7	212,126
	February	3,706	2,778	221	8	191,464
	March	3,171	2,564	179	19	177,659
	April	2,630	2,462	147	2	177,006
	May	2,402	2,471	126	1	183,072
	June	2,331	2,645	108	(s)	195,790
	July	2,225	2,688	117	3	213,756
	August	2,136	2,462	77	(s)	226,305
	September	2,590	2,687	101	(s)	232,310
	October	2,918	2,589	115	(s)	225,711
	November	2,916	2,699	133	(s)	223,261
	December	3,646	2,892	166	(s)	205,113
	AVERAGE	2,865	2,663	139	3	
1981	January	4,090	2,987	273	(s)	180,004
	February	3,395	2,809	325	17	172,528
	March	2,891	2,484	144	(s)	164,638
	April	2,541	2,418	116	3	164,634
	May	2,395	2,454	165	(s)	171,918
	June	R2,437	R2,501	R201	(s)	R180,176
	July	R2,381	R2,403	R179	2	R186,675
	August	R2,384	R2,656	R159	(s)	R200,268
	September†	2,523	2,606	129	1	206,438
	October†	R2,777	R2,485	R117	5	R201,127
	November†	3,014	2,736	128	NA	192,900
	AVERAGE	2,799	2,593	175	NA	

Geographic coverage: the 50 United States and District of Columbia.

¹Beginning in January 1981, the Energy Information Administration modified its monthly petroleum surveys. On the new basis distillate fuel oil production and product supplied in 1980 would have been an average of 105,000 barrels per day higher than shown.

²See Definitions.

†Total as of December 31. †Preliminary data. R=Revised data. NA=Not available. (s)=Less than 500 barrels per day.

Note: Estimated data are in italics and are likely to be revised.

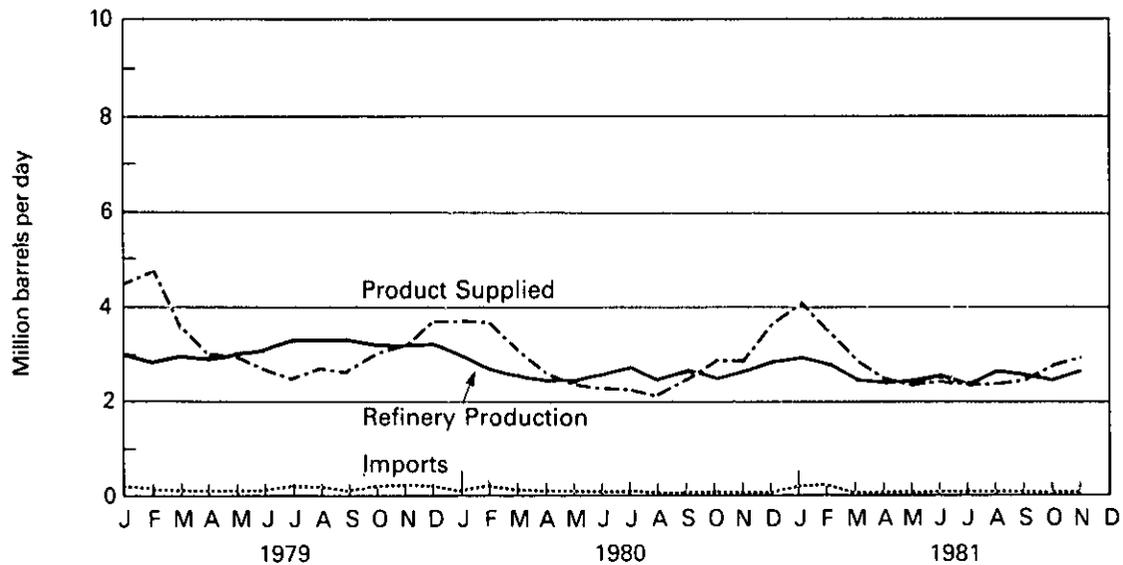
Note: Bureau of Mines' stock coverage was expanded at the end of 1974 to include an additional 100 bulk terminal operators; the new coverage begins here with 1975.

Sources: *See Sources at the end of this section.

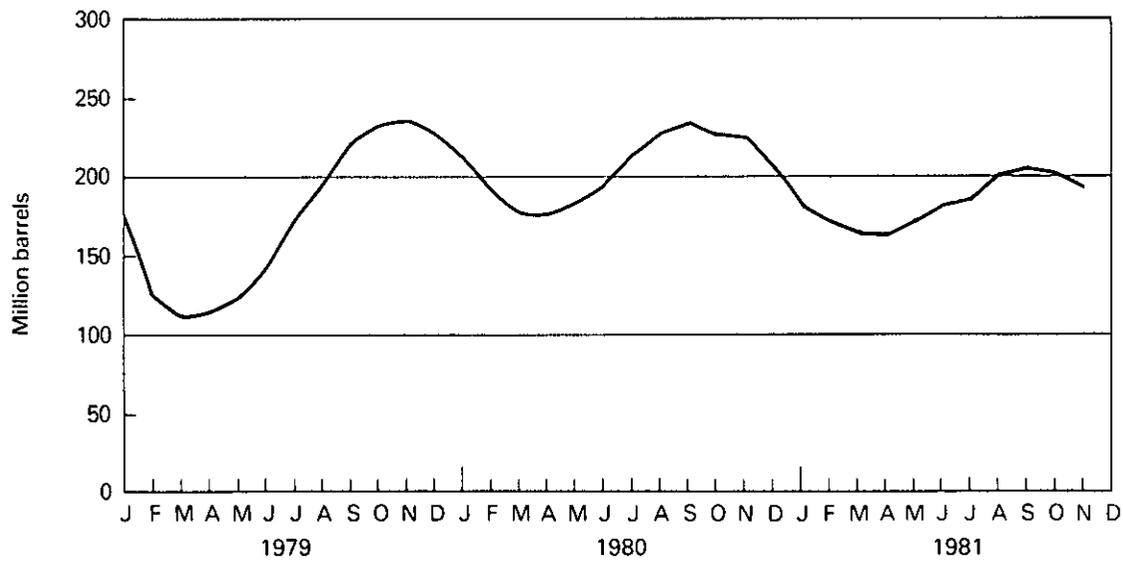
Petroleum

Distillate Fuel Oil

Product Supplied, Refinery Production and Imports



Stocks



Petroleum

Residual Fuel Oil

		Product Supplied ¹	Refinery Production ¹	Imports	Exports	Stocks
		Thousand barrels per day				Thousand barrels
1973	AVERAGE	2,822	971	1,853	23	‡53,480
1974	AVERAGE	2,639	1,070	1,587	14	‡59,694
1975	AVERAGE	2,462	1,235	1,223	15	‡74,126
1976	AVERAGE	2,801	1,377	1,413	12	‡72,344
1977	AVERAGE	3,071	1,754	1,359	6	‡89,993
1978	AVERAGE	3,023	1,667	1,355	13	‡90,194
1979	AVERAGE	2,826	1,687	1,151	9	‡95,598
1980	January	2,865	1,766	1,132	5	97,153
	February	3,099	1,770	1,119	17	90,959
	March	2,650	1,581	971	2	88,269
	April	2,434	1,591	769	² 40	85,219
	May	2,234	1,507	812	20	87,639
	June	2,324	1,575	749	14	87,657
	July	2,287	1,480	787	60	85,605
	August	2,287	1,444	875	2	86,949
	September	2,360	1,497	906	21	87,876
	October	2,224	1,513	871	70	90,989
	November	2,430	1,577	1,024	88	93,814
	December	2,747	1,661	1,025	62	90,344
	AVERAGE	2,493	1,577	920	33	
1981	January	2,870	1,611	1,015	65	82,267
	February	2,549	1,565	956	125	78,230
	March	2,098	1,423	699	145	74,920
	April	1,829	1,320	584	151	73,045
	May	1,769	1,222	735	25	78,542
	June	R1,993	R1,232	540	76	R70,064
	July	R1,995	R1,174	R830	82	R69,264
	August	R1,849	R1,230	819	69	R74,813
	September†	1,833	1,276	841	126	79,916
	October†	R1,808	R1,232	R770	202	R80,112
	November†	<i>1,986</i>	<i>1,154</i>	<i>901</i>	NA	<i>78,401</i>
	AVERAGE	2,050	1,311	789	NA	

Geographic coverage: the 50 United States and District of Columbia.

¹Beginning in January 1981, the Energy Information Administration modified its monthly petroleum surveys. On the new basis residual fuel oil production and product supplied in 1980 would have been an average of 54,000 barrels per day higher than shown.

²Beginning in April 1980, residual fuel oil exports increased due to shipments of high sulfur fuel to the Caribbean to be desulfurized and returned to the United States. In July 1980, additional exports of high sulfur fuel oil began to be shipped to Asia.

†Total as of December 31. †Preliminary data. R=Revised data. NA=Not available.

Note: Estimated data are in italics and are likely to be revised.

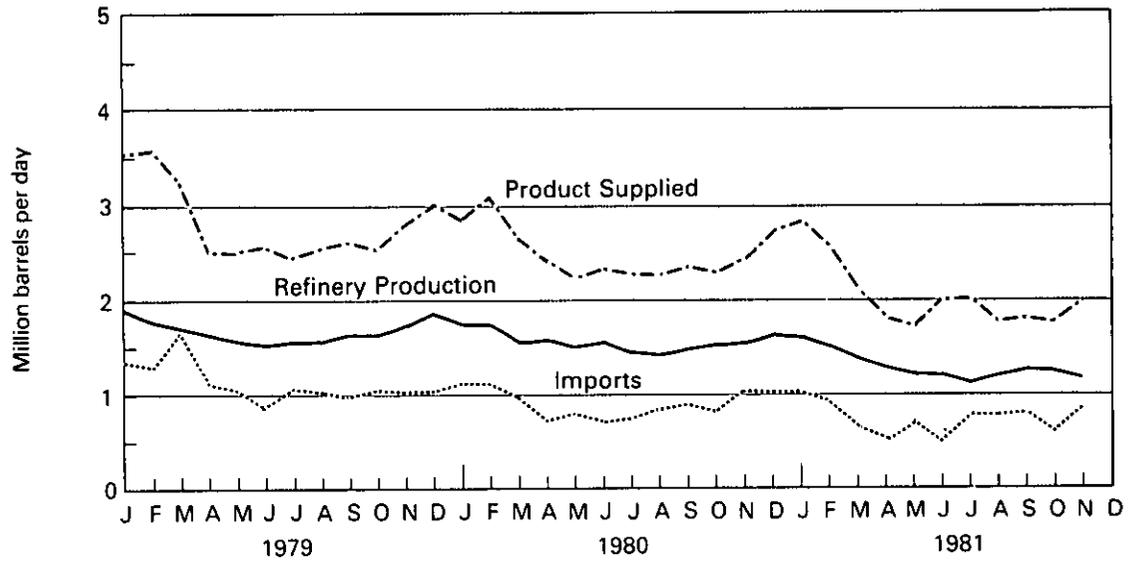
Note: Bureau of Mines' stock coverage was expanded at the end of 1974 to include an additional 100 bulk terminal operators; the new coverage begins here with 1975.

Sources: •See Sources at the end of this section.

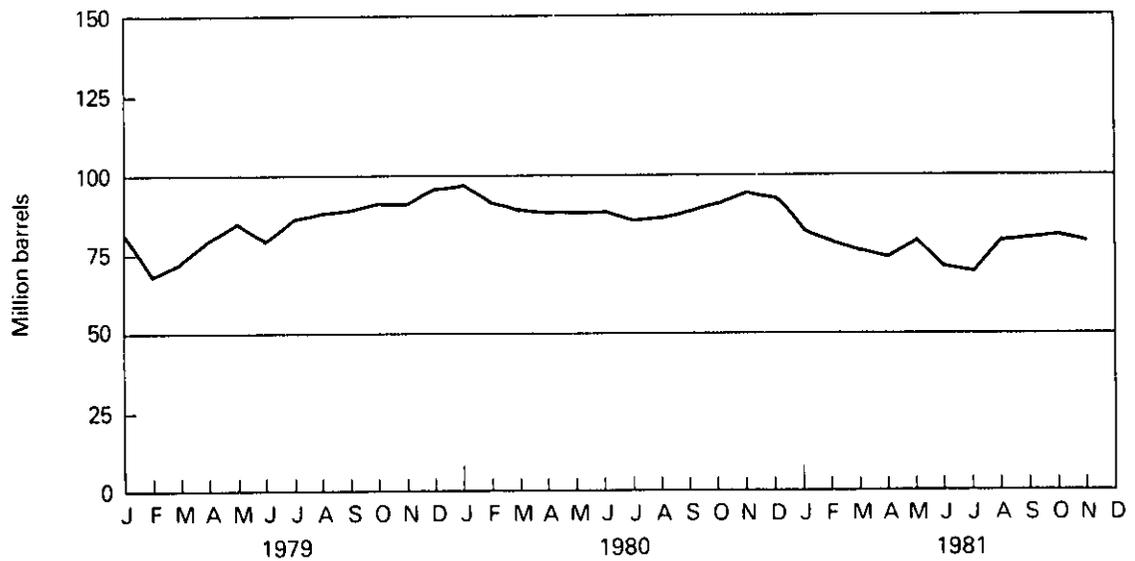
Petroleum

Residual Fuel Oil

Product Supplied, Refinery Production and Imports



Stocks



45-45

Petroleum

Natural Gas Plant Liquids, Including Liquefied Refinery Gases

	Products Supplied ¹	Production ¹		Used at Refineries ¹	Imports	Stocks ¹		
		At processing plants	At refineries					
		Thousand barrels per day						
1973	AVERAGE	1,454	1,738	375	815	239	‡106,659	
1974	AVERAGE	1,422	1,688	338	746	212	‡120,175	
1975	AVERAGE	1,352	1,633	311	710	185	‡132,653	
1976	AVERAGE	1,407	1,603	340	725	196	‡124,518	
1977	AVERAGE	1,427	1,618	352	673	203	‡144,902	
1978	AVERAGE	1,416	1,567	355	639	139	‡‡140,052	
1979	AVERAGE	1,695	1,584	340	504	230	‡125,289	
1980	January	2,021	1,647	338	698	282	110,378	
	February	1,843	1,651	354	572	265	105,389	
	March	1,573	1,569	342	518	224	106,070	
	April	1,212	1,626	328	507	149	117,006	
	May	1,376	1,555	325	428	187	124,615	
	June	1,385	1,559	335	386	193	133,516	
	July	1,218	1,513	325	455	178	143,618	
	August	1,244	1,514	323	417	166	153,716	
	September	1,463	1,510	314	463	168	155,181	
	October	1,612	1,498	300	501	262	152,763	
	November	1,697	1,568	324	528	240	149,277	
	December	1,863	1,558	346	545	299	‡142,251	
		AVERAGE	1,542	1,564	329	502	218	
1981	January	2,010	1,595	324	611	319	134,010	
	February	1,893	1,615	332	560	338	128,722	
	March	1,696	1,581	313	484	260	127,279	
	April	1,405	1,551	322	462	222	133,375	
	May	1,384	1,554	325	443	197	140,492	
	June	R1,424	R1,579	R326	R471	R209	R146,376	
	July	R1,349	R1,547	R307	R465	R218	R153,841	
	August	R1,220	R1,582	R341	466	R201	R161,934	
	September†	1,289	1,566	325	536	150	158,294	
	October†	1,292	1,584	297	574	150	161,077	
		AVERAGE	1,496	1,575	321	507	226	

Geographic coverage: the 50 United States and District of Columbia.

¹See Explanatory Note 7 and Definitions.

²Energy Information Administration (EIA) natural gas plant coverage was expanded in January 1979 to include approximately 80 more plants. Calculated on the new basis, December 1978 closing stocks totaled 147,548 thousand barrels.

³EIA natural gas liquids operations coverage was expanded in January 1981 to include additional storage terminals. Calculated on the new basis, December 1980 closing stocks totaled 146,544 thousand barrels.

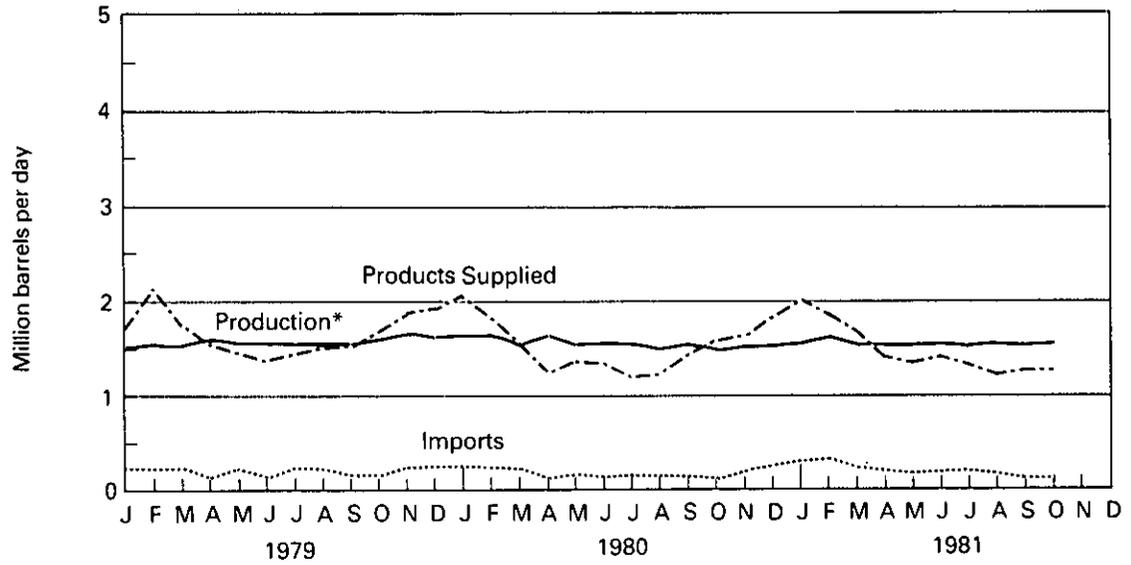
‡Total as of December 31. †Preliminary data. R=Revised data.

Sources: • See Sources at the end of this section.

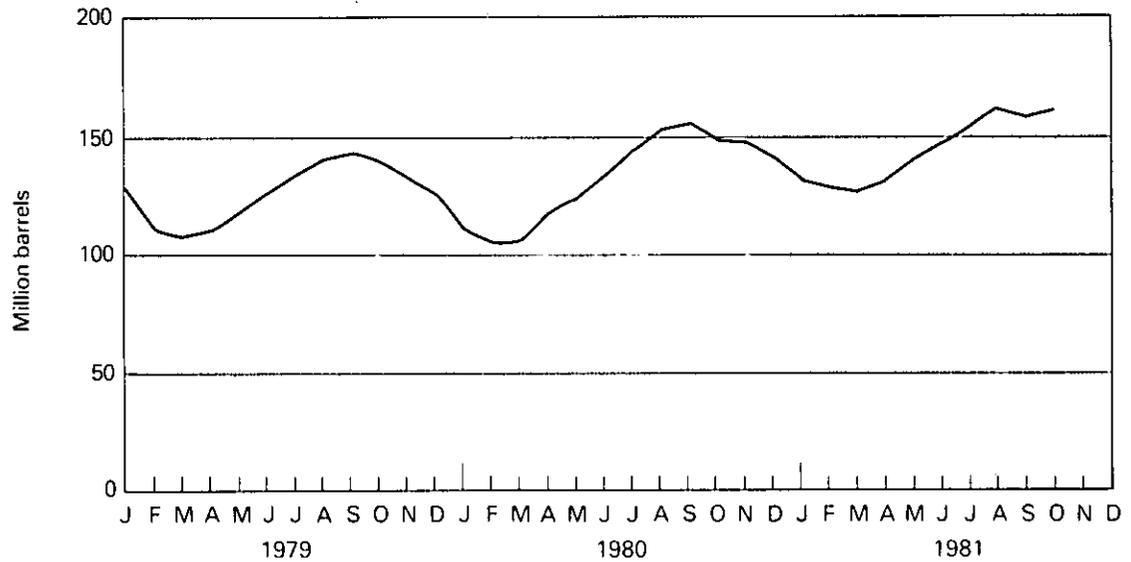
Petroleum

Natural Gas Plant Liquids

Products Supplied, Production and Imports



Stocks



*At processing plants.

Petroleum

Petroleum Primary Supply Balance

	1980				
	1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.	Year
	Thousand barrels per day				
Primary Supply					
Crude oil and lease condensate production	8,685	8,625	8,531	8,548	8,597
Natural gas plant liquids production	1,622	1,580	1,513	1,541	1,564
Other hydrocarbon supply	56	49	44	42	48
Crude oil imported ¹	6,029	5,366	4,692	4,806	5,220
Petroleum products imported ²	<u>1,872</u>	<u>1,440</u>	<u>1,418</u>	<u>1,714</u>	<u>1,611</u>
Total new primary supply	18,263	17,059	16,197	16,652	17,040
Processing gain	629	567	593	591	595
Stock change—all oils ³	<u>-1</u>	<u>+753</u>	<u>+393</u>	<u>-557</u>	<u>+146</u>
Total net primary supply	18,893	16,873	16,398	17,800	17,489
Unaccounted for crude oil ⁴	-57	+61	+158	+131	+73
Disposition					
Crude oil and petroleum products exported	547	562	468	590	542
Crude oil losses	15	14	14	14	14
Total products supplied ⁵	<u>18,274</u>	<u>16,358</u>	<u>16,074</u>	<u>17,327</u>	<u>17,006</u>
Total disposition	18,836	16,934	16,556	17,931	17,562
	1981				
	1st Qtr.	2nd Qtr.†	3rd Qtr.†		
Primary Supply					
Crude oil and lease condensate production	R8,577	R8,549	8,613		
Natural gas plant liquids production	R1,596	R1,590	1,609		
Other hydrocarbon supply	R37	57	53		
Crude oil imported ¹	R4,769	R4,237	4,368		
Petroleum products imported ²	<u>R1,762</u>	<u>R1,340</u>	<u>1,472</u>		
Total new primary supply	R16,741	R15,773	16,113		
Processing gain	R528	R488	481		
Stock change—all oils ³	<u>R-219</u>	<u>R+320</u>	<u>+413</u>		
Total net primary supply	R17,489	R15,941	16,182		
Unaccounted for crude oil ⁴	R+109	R+66	+19		
Disposition					
Crude oil and petroleum products exported	R571	R524	579		
Crude oil losses	R5	R7	14		
Total products supplied ⁵	<u>R17,021</u>	<u>R15,476</u>	<u>15,608</u>		
Total disposition	R17,598	R16,007	16,201		

Geographic coverage: the 50 United States and District of Columbia.
Totals may not equal sum of components due to independent rounding.

¹Includes crude oil imported for the Strategic Petroleum Reserve.

²Includes plant condensate, natural gasoline and unfinished oils.

³Includes petroleum stored in the Strategic Petroleum Reserve.

⁴Balancing item resulting from statistical inconsistencies.

⁵Includes international bunkers.

†Preliminary data. R = Revised data.

Sources: • January 1980 through May 1981: Energy Information Administration (EIA) *Energy Data Reports*, "Petroleum Statement, Monthly."

• June 1981 through September 1981: EIA, "Monthly Petroleum Statistics Report".

• Sources for the *Energy Data Reports* and the "Monthly Petroleum Statistics Report" are shown on the last page of this section.

Sources for the Petroleum Section

- 1973 through 1976: Bureau of Mines, *Mineral Industry Surveys*, "Petroleum Statement, Annual" (except unleaded gasoline) and "PAD Districts Supply/Demand, Annual."
- Unleaded gasoline—1977 through 1980: Energy Information Administration (EIA), "Monthly Petroleum Statistics Report."
- 1977 through 1979: EIA, *Energy Data Reports*, "Petroleum Statement, Annual" and "PAD Districts Supply/Demand, Annual".
- January 1980 through August 1981: EIA, *Energy Data Reports*, "Petroleum Statement, Monthly" and "PAD Districts Supply/Demand, Monthly."
- September 1981 through October 1981: EIA, "Monthly Petroleum Statistics Report".
- Data for the most recent month are estimates based on EIA weekly data (except domestic production).
- Domestic production for the most recent month is an EIA estimate based on historical data from State Conservation Agencies and the U.S. Geological Survey.
- Sources for the *Energy Data Reports* and the "Monthly Petroleum Statistics Report" are: EIA Forms EIA-64 (Natural Gas Liquids Operations Report), EIA-87 (Refinery Report), EIA-88 (Bulk Terminals Report), EIA-89 (Pipeline Report), and EIA-90 (Crude Oil Stock Report); Economic Regulatory Administration (ERA) Forms ERA-60 (Imports) and FEA P133 (Imports from Puerto Rico); Bureau of the Census IM 145 (Imports), EM 522 (Exports), and EM 594 (Exports); U.S. Geological Survey (Crude Production); and State Conservation Agencies (Crude Production).

Natural Gas

Consumption of natural gas in the United States during November 1981 was an estimated 1.7 trillion cubic feet (Tcf). This was 9.6 percent higher than in October 1981 and 4.1 percent lower than in November 1980. Estimated consumption during the first 11 months of 1981 totaled 17.7 Tcf, 1.3 percent less than during the January through November 1980 period.

Production of dry natural gas in November 1981 was an estimated 1.6 Tcf, 0.6 percent more than in October 1981 and 2.1 percent higher than in November 1980. Output during the January through November 1981 period totaled 17.9 Tcf, 1.4 percent more than during the comparable 1980 period.

Imports of natural gas in November 1981 were an estimated 90 billion cubic feet (Bcf), 2.3 percent higher than in the previous November. During the first 11 months of 1981, imports of natural gas totaled an estimated 791 Bcf, 10.8 percent lower than during the comparable 1980 period. Receipts of foreign gas during November 1981 included Algerian liquefied natural gas (LNG) equivalent to approximately 5 Bcf.

Domestic producer sales to major interstate pipelines in July 1981 (latest data available) totaled 889 Bcf, 7.8 percent above sales for the previous July. Total sales during the first 7 months of 1981 were 6.4 Tcf, approximately 2.4 percent above sales during the comparable 1980 period.

Stocks of working gas* in underground natural gas storage reservoirs at the end of November 1981 totaled 3.2 Tcf, according to preliminary data. This was 5.8 percent above stocks available a year earlier. Net withdrawals from storage during November 1981 were 36 Bcf as compared with 137 Bcf during the previous November.

*Gas available for withdrawal.

Natural Gas

		Production			Domestic Producer Sales to Major Interstate Pipelines	Imports	Exports
		Domestic Consumption	Marketed	Dry			
Billion cubic feet							
1973	TOTAL	22,049	22,648	21,731	12,067	1,033	77
1974	TOTAL	21,223	21,601	20,714	11,462	959	77
1975	TOTAL	19,538	20,109	19,237	10,652	953	73
1976	TOTAL	19,946	19,952	19,098	10,140	964	65
1977	TOTAL	19,521	20,025	19,163	9,883	1,011	56
1978	TOTAL	19,627	19,974	19,122	9,911	966	53
1979	TOTAL	20,241	20,471	19,663	10,496	1,253	56
1980	January	2,279	1,817	1,745	981	118	6
	February	2,192	1,705	1,638	898	108	5
	March	2,099	1,827	1,754	960	109	5
	April	1,568	1,667	1,601	897	77	3
	May	1,355	1,692	1,625	859	70	3
	June	1,253	1,583	1,520	794	61	3
	July	1,301	1,613	1,549	825	61	3
	August	1,246	1,572	1,510	828	60	3
	September	1,299	1,577	1,515	800	60	5
	October	1,542	1,647	1,582	894	75	5
	November	1,783	1,651	1,586	906	88	3
	December	2,156	1,794	1,723	963	98	5
	TOTAL	20,073	20,145	19,348	10,605	985	49
1981	January	2,256	1,769	1,699	965	86	5
	February	1,899	1,592	1,529	873	79	3
	March	1,906	1,745	1,676	945	73	4
	April	1,512	1,675	1,609	905	68	3
	May	1,459	1,720	1,652	909	61	5
	June	1,336	1,666	1,600	877	63	5
	July	1,366	1,697	1,630	889	64	3
	August	R1,367	R1,747	R1,678	NA	62	4
	September	R1,320	R1,630	R1,570	NA	67	4
	October	1,560	1,680	1,610	NA	R78	5
	November	1,710	1,690	1,620	NA	90	4
	TOTAL	17,691	18,611	17,873	NA	791	45
	(Year-to-date)						

Geographic coverage: the 50 United States and District of Columbia.

R=Revised data. NA=Not available.

Note: Estimated data are in italics and are likely to be revised.

Sources: • Domestic Consumption—1973 through 1975: U.S. Department of the Interior, Bureau of Mines, *Minerals Yearbook*, "Natural Gas" chapter; 1976 through 1979: Energy Information Administration (EIA), *Energy Data Report*, "Natural Gas Production and Consumption"; January 1980 forward: EIA estimates based on a supply/disposition balance calculation.

• Production—State reports to the Interstate Oil Compact Commission, data from the United States Geological Survey and EIA estimates for states that do not report monthly data on a regular or timely basis.

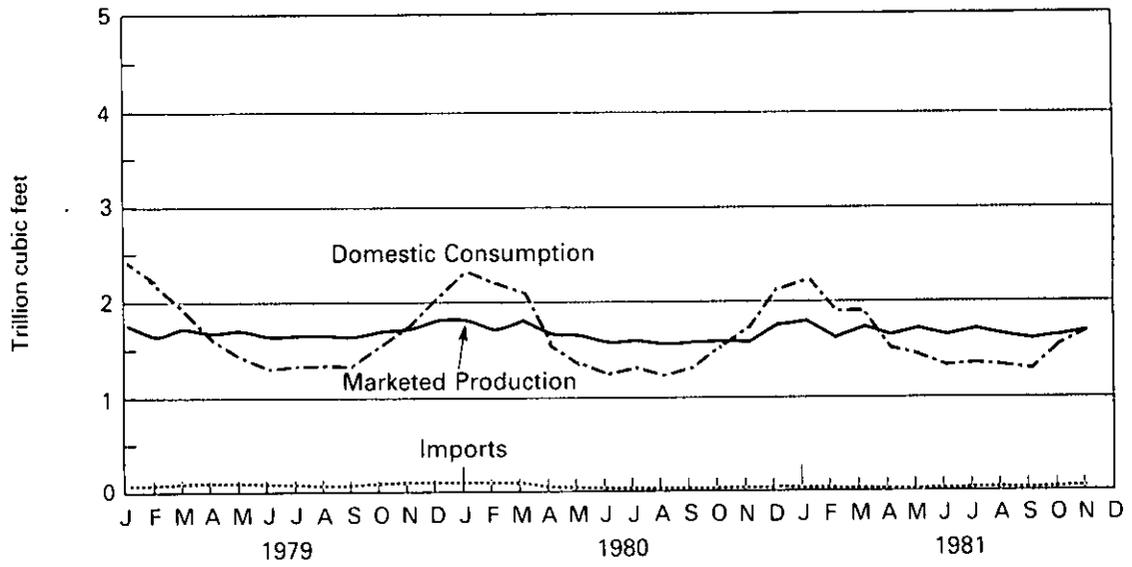
• Domestic Producer Sales—FPC Form 11, "Natural Gas Pipeline Company Monthly Statement."

• Imports—1973 through 1980: FPC Form 14, "Imports and Exports of Natural Gas"; January 1981 forward: EIA estimates based on import data from FPC Form 11.

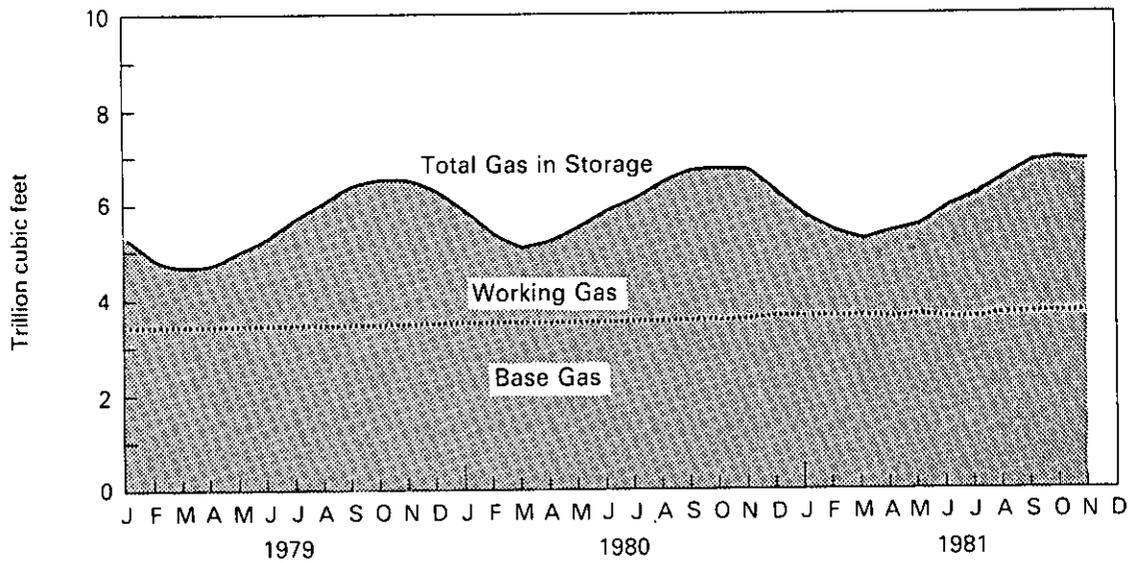
• Exports—1973 through 1980: FPC Form 14; January 1981 forward: EIA estimates based primarily on historical data reported on FPC Form 14.

Natural Gas

Domestic Consumption, Marketed Production and Imports



Gas in Storage



Natural Gas

Natural Gas in Underground Storage¹

		Total Gas in Storage	Base Gas	Working Gas	Storage Injections	Storage Withdrawals	Net Storage Injections ²
Billion cubic feet							
1975	TOTAL	‡5,358	‡3,150	‡2,208	NA	NA	NA
1976	TOTAL	‡5,231	‡3,310	‡1,922	1,952	2,074	(122)
1977	TOTAL	‡5,844	‡3,377	‡2,466	2,390	1,767	623
1978	TOTAL	‡5,999	‡3,459	‡2,540	2,330	2,176	154
1979	TOTAL	‡6,297	‡3,537	‡2,761	2,384	2,041	343
1980	January	5,865	3,535	2,330	21	465	(444)
	February	5,397	3,536	1,861	24	493	(469)
	March	5,131	3,542	1,589	41	307	(266)
	April	5,227	3,547	1,680	174	78	96
	May	5,538	3,553	1,985	319	8	311
	June	5,841	3,560	2,281	316	13	303
	July	6,127	3,564	2,563	302	18	284
	August	6,444	3,594	2,850	328	30	298
	September	6,692	3,596	3,096	260	11	249
	October	6,782	3,598	3,184	141	53	88
	November	6,639	3,620	3,019	66	203	(137)
	December	6,272	3,629	2,643	34	402	(368)
1981	January	5,763	3,629	2,134	28	537	(509)
	February	5,440	3,628	1,812	62	385	(323)
	March	5,248	3,630	1,618	50	243	(193)
	April	5,380	3,631	1,749	191	59	132
	May	5,598	3,634	1,964	243	25	218
	June	5,895	3,634	2,261	323	31	292
	July	6,200	3,649	2,551	324	29	295
	August	6,589	3,709	2,880	356	18	338
	September	6,868	3,719	3,149	285	6	279
	October	6,966	3,724	3,242	R149	53	R96
	November†	6,922	3,727	3,195	92	128	(36)

Geographic coverage: the 50 United States and District of Columbia.

¹See Explanatory Note 9.

²Net storage injections are storage injections minus storage withdrawals. Parentheses indicate withdrawals greater than injections.

‡Total as of December 31. †Preliminary data. R=Revised data. NA=Not available.

Source: • Energy Information Administration, EIA Form 191 and FPC Form 8, "Underground Gas Storage Report."

Oil and Gas Resource Development

The November 1981 rotary rig count of 4,436 was the highest in U.S. drilling history, 1.9 percent above the previous record of 4,352 rigs attained the month before and 37.8 percent higher than the November 1980 count of 3,220 rotary rigs.

Well completions reported through November 1981 totaled 68,246. This is a 28.8 percent increase of the number from January to November 1980 (52,993 reported).

The cumulative oil well completions in 1981 (33,058 reported) were up 41.6 percent from the 1980 figure (23,341 reported). During the first 11 months of 1981, 15,298 gas well completions were reported, 10.7 percent above the comparable 1980 period (13,820 reported). Total reported footage drilled through November of this year, increased 24.9 percent (312.7 million feet as compared to 250.3 million feet) above the same period of the year before.

There were 52 crews engaged in seismic exploratory work offshore in November 1981. This was a 26.8 percent increase from the November 1980 level. November 1981 onshore seismic activity decreased from the previous month's level to 681 crews, but was 28.2 percent higher than activity during November 1980.

Part 5 Oil and Gas Resource Development

Oil and Gas Resource Development

		Rotary Rigs in Operation	Exploratory and Development Wells Completed ^{1 2}				Total Footage of Wells Completed ¹		
			Monthly average	Oil	Gas	Dry		Total	Thousand feet
1973	AVERAGE	1,194	TOTAL	9,902	6,385	10,305	26,592	136,391	
1974	AVERAGE	1,475	TOTAL	12,784	7,240	11,674	31,698	150,551	
1975	AVERAGE	1,660	TOTAL	16,408	7,580	13,247	37,235	174,434	
1976	AVERAGE	1,656	TOTAL	17,059	9,085	13,621	39,765	181,780	
1977	AVERAGE	2,001	TOTAL	18,912	11,378	14,692	44,982	210,848	
1978	AVERAGE	2,259	TOTAL	17,775	13,064	16,218	47,057	227,110	
1979	AVERAGE	2,177	TOTAL	19,383	14,681	15,752	49,816	238,659	
1980	January	2,571		1,436	782	1,240	3,458	16,475	
	February	2,613		1,635	1,000	1,297	3,932	18,891	
	March	2,658		2,390	1,834	1,542	5,766	27,691	
	April	2,682		1,841	1,121	1,158	4,120	18,855	
	May	2,797		2,059	1,070	1,191	4,320	19,899	
	June	2,850		2,228	1,282	1,451	4,961	24,479	
	July	2,953		2,079	1,042	1,337	4,458	21,734	
	August	3,045		2,357	1,275	1,539	5,171	24,112	
	September	3,099		2,641	1,720	1,767	6,128	28,171	
	October	3,148		2,417	1,190	1,697	5,304	24,600	
	November	3,220		R2,258	R1,503	R1,617	R5,378	R25,417	
	December	3,286		3,675	1,903	2,237	7,815	33,806	
		AVERAGE	2,909	TOTAL	27,026	15,730	18,089	60,845	284,461
1981	January	3,386		1,789	971	1,360	4,120	20,195	
	February	3,502		2,462	1,045	1,609	5,116	22,763	
	March	3,595		3,102	1,424	1,878	6,404	30,144	
	April	3,728		2,905	1,600	1,546	6,051	27,836	
	May	3,816		2,604	1,159	1,675	5,438	24,842	
	June	3,926		3,497	1,320	2,105	6,922	31,689	
	July	3,998		2,790	1,116	1,698	5,604	25,542	
	August	4,131		3,137	1,266	1,867	6,270	28,886	
	September	4,242		3,416	1,967	2,019	7,402	33,608	
	October	4,352		3,775	1,875	2,091	7,741	35,500	
	November	4,436		3,587	1,577	2,057	7,221	32,149	
		AVERAGE	3,928	TOTAL	33,058	15,298	19,890	68,246	312,712

Geographic coverage: the 50 United States and District of Columbia.

¹These data are for well completions reported to the American Petroleum Institute (API) during the reporting period. They exclude service wells and stratigraphic and core tests.

²Data reported for the first 2 months of each quarter cover 4 weeks of drilling activity, and data for the last month of the quarter cover 5 weeks of drilling activity.

R=Revised data.

Note: Totals reflect subsequent data revisions and therefore may not agree with cumulative monthly data.

Sources: • Rotary Rigs: Hughes Tool Company, "Rotary Rigs Running—By State."

• Wells: API, "Monthly Drilling Report" and "Quarterly Review of Drilling Statistics for the United States."

Oil and Gas Resource Development

		Crews Engaged in Seismic Exploration			Line-Miles of Seismic Exploration		
		Offshore	Onshore	Total	Offshore ¹	Onshore ¹	Total ¹
		Monthly average			Annual total		
1973	AVERAGE	23	227	250	258,944	127,160	386,104
1974	AVERAGE	31	274	305	341,784	158,629	500,413
1975	AVERAGE	30	254	284	309,283	150,694	459,977
1976	AVERAGE	25	237	262	226,303	142,926	369,229
1977	AVERAGE	27	281	308	124,676	120,072	244,748
1978	AVERAGE	25	327	352	174,607	135,899	310,506
1979	AVERAGE	30	370	400	193,212	163,929	357,141
1980	January	29	439	468			
	February	29	440	469			
	March	29	448	477			
	April	31	465	496			
	May	34	468	502			
	June	39	496	535			
	July	42	514	556			
	August	44	521	565			
	September	44	523	567			
	October	41	530	571			
	November	41	531	572			
	December	40	540	580			
	AVERAGE	37	493	530	202,694	184,088	386,782
1981	January	38	553	591			
	February	41	561	602			
	March	40	570	610			
	April	40	605	645			
	May	42	619	661			
	June	44	652	696			
	July	43	668	711			
	August	46	689	735			
	September	47	697	744			
	October	52	689	741			
	November	52	681	733			
	AVERAGE	44	635	679			

Geographic coverage: the 50 United States and District of Columbia.

¹Monthly data not available.

Sources: • Society of Exploration Geophysicists, "Monthly Seismic Crew Count" and annual reports published in their bulletin, *Geophysics*.



Coal

Coal production in November 1981 was 72.7 million short tons, 5.9 percent more than the 68.7 million short tons produced in November 1980. Coal production during the first 11 months of 1981 totaled 736.4 million short tons, down 2.8 percent from the 757.6 million short tons produced in the first 11 months of 1980.

Electric utility coal consumption in October 1981 totaled 47.8 million short tons, 6.0 percent more than consumption in October 1980.

Electric utility coal stocks of 159.7 million short tons at the end of October 1981 were 22.4 million short tons (12.3 percent) below the level 1 year earlier.

Imports of coal in October 1981 totaled 94 thousand short tons. Exports of coal in October 1981 totaled 12.4 million short tons, 2.9 million short tons (30.7 percent) more than the amount exported during October 1980. Coal exports were principally to Japan (24.4 percent) and Canada (21.0 percent).

Part 6

COAL

Coal

Bituminous Coal, Lignite, and Anthracite

		Production	Domestic Consumption	Imports ¹	Exports ^{2,3}	Stocks ⁴
Thousand short tons						
1973	TOTAL	598,568	562,584	127	53,587	104,335
1974	TOTAL	610,023	558,402	2,080	60,661	96,323
1975	TOTAL	654,641	562,641	940	66,309	128,050
1976	TOTAL	684,913	603,790	1,203	60,021	134,438
1977	TOTAL	697,205	625,291	1,647	54,312	157,098
1978	TOTAL	670,164	625,225	2,953	40,714	145,551
1979	TOTAL	781,134	680,524	2,059	66,042	181,646
1980	January	69,594	63,521	121	4,460	179,450
	February	65,546	59,678	193	4,041	176,808
	March	70,953	58,851	93	5,633	176,685
	April	69,658	52,635	63	7,563	185,367
	May	71,043	52,834	207	8,597	193,920
	June	71,338	56,098	104	8,899	199,299
	July	61,285	63,122	32	8,247	187,913
	August	68,399	62,752	166	9,270	190,689
	September	68,822	57,306	2	8,364	194,467
	October	72,290	55,774	139	9,454	201,975
	November	68,655	56,800	3	8,987	204,436
	December	72,117	63,362	70	8,228	204,028
	TOTAL	829,700	702,733	1,194	91,742	
1981	January†	65,588	67,146	35	5,795	198,603
	February†	70,478	59,530	104	6,771	197,962
	March†	77,453	60,054	77	9,710	206,850
	April†	36,961	54,354	63	8,271	186,816
	May†	37,208	54,644	96	6,086	166,814
	June†	61,792	59,319	138	6,158	157,773
	July†	73,183	NA	13	10,762	NA
	August†	78,173	NA	150	11,315	NA
	September†	79,573	NA	69	11,900	NA
	October†	83,309	NA	94	12,360	NA
	November†	72,676	NA	NA	NA	NA
	TOTAL	736,394	NA	NA	NA	NA
	(Year-to-date)					

Geographic coverage: the 50 United States and District of Columbia.

Totals may not equal sum of components due to independent rounding.

See Explanatory Note 10 for methodology used to calculate domestic consumption from 1978 forward.

¹Bituminous coal is the only type of coal imported during the years shown above.

²Includes exports of lignite beginning in 1978. Lignite prior to 1978 was combined with lignite briquets. Exports of lignite totaled 22,821 short tons in 1978; 26,389 short tons in 1979; and 65,064 short tons in 1980.

³Excludes shipments of anthracite to U.S. Armed Forces overseas (340,000 short tons in 1980).

⁴Stocks held by electric utilities, coke plants, and general industry at the end of period. Excludes stocks at retail dealers (which are consumed by the Residential and Commercial Sectors).

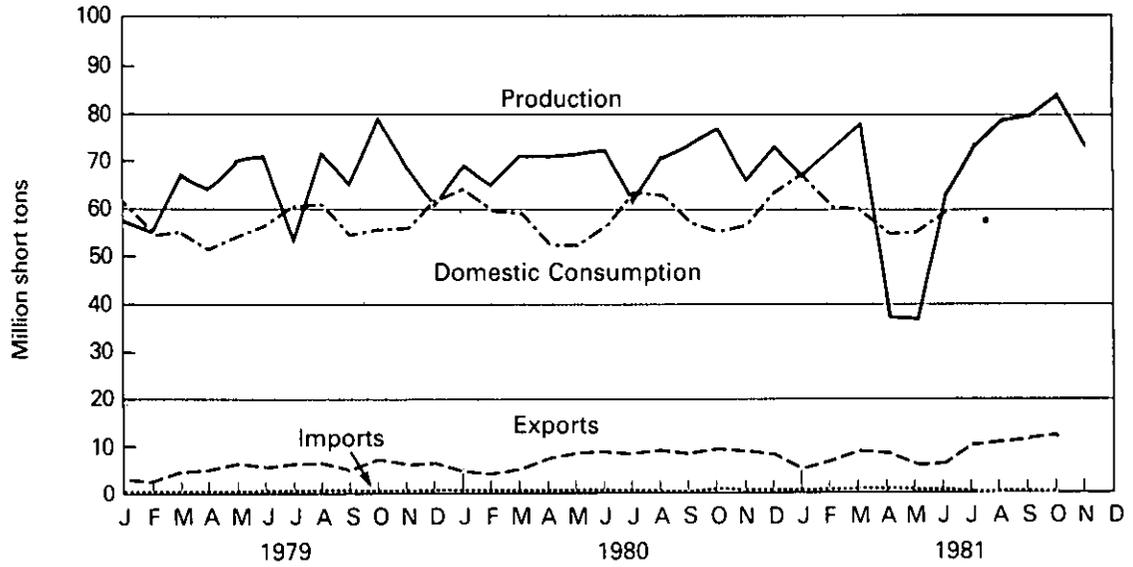
†Preliminary data. NA = Not available.

Sources: • See Sources at the end of this section.

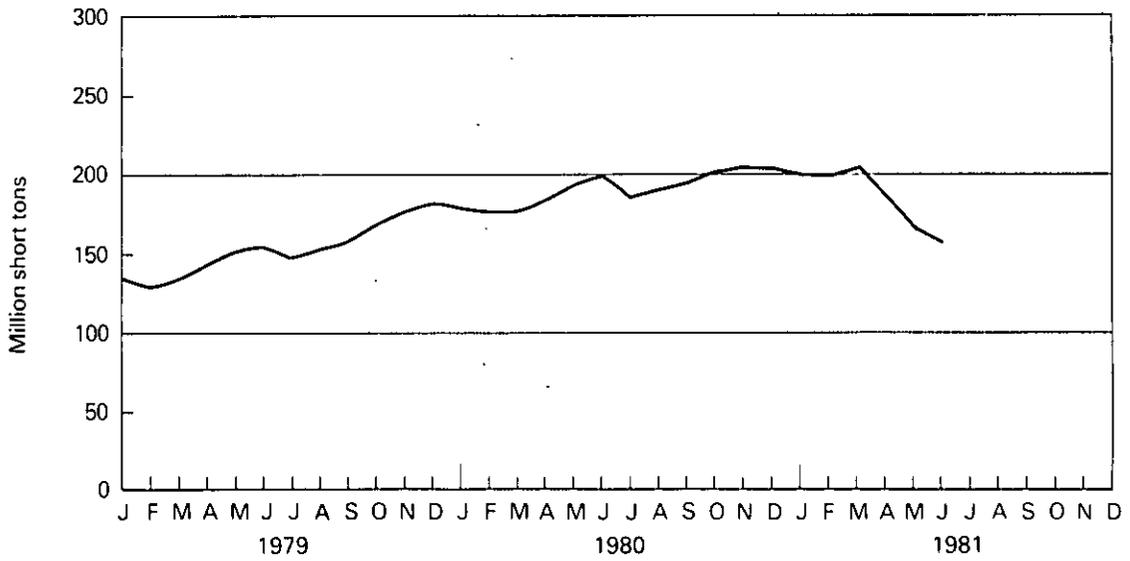
Coal

Bituminous Coal, Lignite, and Anthracite

Production, Consumption, Imports, and Exports



Stocks



Coal

Consumption—Bituminous Coal, Lignite, and Anthracite

		Industrial				
		Electric Utilities	Coke Plants ¹	Other Industrial ² Including Transportation	Residential and Commercial	Total
		Thousand short tons				
1973	TOTAL	389,212	94,101	68,154	11,117	562,584
1974	TOTAL	391,811	90,191	64,983	11,417	558,402
1975	TOTAL	405,962	83,598	63,670	9,410	562,641
1976	TOTAL	448,371	84,704	61,799	8,916	603,790
1977	TOTAL	477,126	77,739	61,472	8,954	625,291
1978	TOTAL	481,235	71,394	63,085	9,511	625,225
1979	TOTAL	527,051	77,368	67,717	8,388	680,524
1980	January	50,371	6,342	5,944	864	63,521
	February	47,512	6,010	5,400	756	59,678
	March	46,685	6,428	5,199	539	58,851
	April	40,692	6,247	5,118	578	52,635
	May	41,464	6,127	4,894	349	52,834
	June	45,821	5,326	4,675	276	56,098
	July	53,655	4,903	4,222	342	63,122
	August	53,214	4,878	4,337	323	62,752
	September	47,913	4,794	4,170	429	57,306
	October	45,092	5,107	4,990	585	55,774
	November	45,698	5,152	5,331	619	56,800
	December	51,157	5,346	6,067	792	63,362
	TOTAL	569,274	66,660	60,347	6,452	702,733
1981	January†	54,357	5,465	6,469	855	67,146
	February†	47,914	5,177	5,874	565	59,530
	March†	48,398	5,532	5,654	470	60,054
	April†	43,677	4,862	5,254	561	54,354
	May†	44,999	4,259	5,016	370	54,644
	June†	49,988	4,460	4,571	300	59,319
	July†	56,144	NA	NA	NA	NA
	August†	54,328	NA	NA	NA	NA
	September†	48,483	NA	NA	NA	NA
	October†	47,800	NA	NA	NA	NA
	TOTAL (Year-to-date)	496,088	NA	NA	NA	NA

Geographic coverage: the 50 United States and District of Columbia.
 Totals may not equal sum of components due to independent rounding.
¹Bituminous coal and anthracite only. Lignite is not used at coke plants.
²See Explanatory Note 10.
 †Preliminary data. NA=Not available.
 Sources: • See Sources at the end of this section.

Coal

Stocks¹—Bituminous Coal, Lignite, and Anthracite

		Industrial			
		Electric Utilities	Coke Plants ²	Other Industrial	Total ³
		Thousand short tons			
1973		86,967	6,998	10,370	104,335
1974		83,509	6,209	6,605	96,323
1975		110,724	8,797	8,529	128,050
1976		117,436	9,902	7,100	134,438
1977		133,219	12,816	11,063	157,098
1978		128,225	8,278	9,048	145,551
1979		159,714	10,155	11,777	181,646
1980	January	158,717	9,634	11,099	179,450
	February	157,124	9,263	10,421	176,808
	March	157,625	9,317	9,743	176,685
	April	165,817	9,579	9,971	185,367
	May	174,029	9,692	10,199	193,920
	June	178,959	9,913	10,427	199,299
	July	168,806	8,427	10,680	187,913
	August	171,891	7,866	10,932	190,689
	September	175,067	8,213	11,187	194,467
	October	182,045	8,488	11,442	201,975
	November	184,133	8,606	11,697	204,436
	December	183,010	9,067	11,951	204,028
1981	January†	176,975	9,634	11,994	198,603
	February†	175,715	10,211	12,036	197,962
	March†	183,983	10,788	12,079	206,850
	April†	168,894	6,952	10,970	186,816
	May†	152,103	4,850	9,861	166,814
	June†	144,520	4,500	8,753	157,773
	July†	140,656	NA	NA	NA
	August†	142,315	NA	NA	NA
	September†	149,526	NA	NA	NA
	October†	159,676	NA	NA	NA

Geographic coverage: the 50 United States and District of Columbia.

Totals may not equal sum of components due to independent rounding.

¹Stocks held by electric utilities, coke plants, and general industry at end of period.

²Bituminous coal and anthracite only. Lignite is not used at coke plants.

³Total excludes stocks at retail dealers (which are consumed by the Residential and Commercial Sectors).

†Preliminary data. NA = Not available.

Sources: • See Sources at the end of this section.

Sources for the Coal Section

•**Production:** 1973 through September 1977: Bureau of Mines, *Minerals Yearbook* and *Mineral Industry Surveys*; October 1977 forward: Energy Information Administration (EIA), "Weekly Coal Report," "Coal Distribution Report," (Form EIA-6), and selected State agencies.

•**Consumption and Stocks:** 1973 through September 1977: Bureau of Mines, *Minerals Yearbook* and *Mineral Industry Surveys*;

—Electric Utilities—October 1977 forward: EIA, "Monthly Power Plant Report" (FPC Form 4).

—Other Industrial—October 1977 through December 1979: EIA, "Monthly Fuel Consumption Report - Manufacturing Plants" (Form EIA-3); January 1980 forward: EIA, "Quarterly Fuel Consumption Report - Manufacturing Plants" (Form EIA-3) and EIA, "Coal Distribution Report" (Form EIA-6).

—Coke Plants—October 1977 through December 1980: EIA, "Coke and Coal Chemicals - Monthly/Annual" (Form EIA-5/5A); January 1981 forward: EIA, "Coke and Coal Chemicals - Quarterly/Annual" Form EIA-5/5A).

—Residential and Commercial—October 1977 through December 1979: EIA, "Monthly Coal Report, Retail Dealers and Upper Lake Docks" (Form EIA-2); January 1980 forward: EIA, "Coal Distribution Report" (Form EIA-6).

•**Imports/Exports:** 1973 through September 1977: Bureau of Mines, *Minerals Yearbook* and *Mineral Industry Surveys*; October 1977 forward: Bureau of the Census, Monthly Reports IM 145 (Imports) and EM 522 (Exports).

Electric Utilities

October 1981 production of electricity by utilities was 181.4 billion kilowatt-hours, 1.6 percent above the October 1980 production level. Coal-fired production totaled 97.0 billion kilowatt-hours, 6.4 percent above the October 1980 level. Natural gas-fired production decreased to 28.9 billion kilowatt-hours, 1.1 percent above the level 1 year earlier. Nuclear production totaled 20.6 billion kilowatt-hours, 16.1 percent below the October 1980 level. Hydroelectric production was 18.1 billion kilowatt-hours in October 1981, 1.4 percent above the October 1980 level. Petroleum-fired production totaled 16.2 billion kilowatt-hours, 2.2 percent above the level 1 year earlier.

Sales of electricity to all ultimate consumers in the United States in October 1981 totaled 168.7 billion kilowatt-hours, a decrease of 8.1 percent from sales of the month before and 0.8 percent below October 1980 sales. Sales to residential consumers during October 1981 were 52.0 billion kilowatt-hours, 3.8 percent below sales for the corresponding month in 1980. Commercial sales were 41.2 billion kilowatt-hours, 1.7

percent more than the amount for October 1980. Sales to industrial consumers totaled 69.1 billion kilowatt-hours in October 1981, 0.4 percent less than the October 1980 figure. In October 1981 other sales totaled 6.4 billion kilowatt-hours, 3.5 percent above the October 1980 level.

Electric utility petroleum consumption (excluding petroleum coke) during October 1981 was 27.2 million barrels, a 0.9 percent increase above the October 1980 level. Coal consumption for October 1981 was 47.8 million tons, 6.0 percent above the October 1980 rate. During October 1981, consumption of natural gas by electric utilities was 301.6 billion cubic feet, 0.1 percent above the October 1980 consumption level.

On October 31, 1981, utility stocks of anthracite, bituminous coal, and lignite totaled 159.7 million tons. Stockpiles were 12.3 percent below the levels of October 1980.

Petroleum stocks (excluding petroleum coke) on October 31, 1981, totaled 127.8 million barrels, 10.3 percent below the levels for the same month of 1980.

Part 7

Electric Utilities

Electric Utilities

Net Electricity Production by Primary Energy Source

		Coal ¹	Petroleum ²	Natural Gas	Nuclear	Hydro	Other ³	Total	
Million kilowatt-hours									
1973	TOTAL	847,651	314,343	340,858	83,479	272,083	2,294	1,860,710	
1974	TOTAL	828,433	300,931	320,065	113,976	301,032	2,703	1,867,140	
1975	TOTAL	852,786	289,095	299,778	172,505	300,047	3,437	1,917,649	
1976	TOTAL	944,391	319,988	294,624	191,104	283,707	3,883	2,037,696	
1977	TOTAL	985,219	358,179	305,505	250,883	220,475	4,063	2,124,323	
1978	TOTAL	975,742	365,060	305,391	276,403	280,419	3,315	2,206,331	
1979	TOTAL	1,075,037	303,525	329,485	255,155	279,783	4,387	2,247,372	
1980	January	103,258	24,986	26,349	19,746	25,278	388	200,005	
	February	98,151	24,781	24,755	19,277	21,378	373	188,715	
	March	95,386	20,415	26,891	20,039	24,332	401	187,464	
	April	83,562	16,025	24,181	18,794	25,748	410	168,720	
	May	84,884	16,545	26,587	18,385	28,865	468	175,734	
	June	93,692	18,020	31,295	18,322	27,656	445	189,430	
	July	108,457	23,289	39,063	21,024	24,469	475	216,776	
	August	107,580	24,885	37,647	24,333	20,431	517	215,393	
	September	97,557	17,815	33,580	23,572	18,491	469	191,485	
	October	91,196	15,858	28,592	24,510	17,866	533	178,555	
	November	93,501	19,989	24,338	20,984	19,217	520	178,550	
	December	104,339	23,386	22,961	22,130	22,290	506	195,613	
	TOTAL	1,161,562	245,994	346,240	251,116	276,021	5,506	2,286,439	
1981	January	111,148	25,724	22,081	23,368	22,355	540	205,217	
	February	97,653	17,444	21,339	21,595	21,134	483	179,648	
	March	99,482	16,962	25,900	22,004	20,572	541	185,461	
	April	88,109	15,106	27,309	20,646	20,723	500	172,393	
	May	88,941	14,508	29,920	19,723	24,081	483	177,656	
	June	99,828	18,972	35,885	21,166	26,370	473	202,694	
	July	112,854	19,973	38,602	23,080	25,133	523	220,164	
	August	108,225	16,031	36,888	26,946	21,635	520	210,245	
	September	97,664	15,566	30,850	24,398	17,842	538	186,858	
	October	97,046	16,213	28,917	20,556	18,114	531	181,377	
		TOTAL	1,000,951	176,499	297,691	223,483	217,959	5,133	1,921,714
		(Year-to-date)							

Geographic coverage: the 50 United States and District of Columbia.

Totals may not equal sum of components due to independent rounding.

¹Includes bituminous coal, lignite, and anthracite.

²Includes fuel oil No. 2, No. 4, No. 5, No. 6, crude oil, kerosene, and petroleum coke.

³Includes geothermal, wood and waste.

Source: Federal Power Commission Form 4, "Monthly Power Plant Report".

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Electric Utilities

Electricity Sales¹

		Residential	Commercial	Industrial	Other ²	Total
Million kilowatt-hours						
1973	TOTAL	579,231	388,266	686,085	59,326	1,712,909
1974	TOTAL	578,184	384,826	684,875	58,039	1,705,924
1975	TOTAL	584,712	401,674	675,271	68,153	1,729,810
1976	TOTAL	602,863	423,639	739,965	69,557	1,836,024
1977	TOTAL	641,134	444,931	772,291	70,487	1,928,845
1978	TOTAL	671,094	459,908	800,656	73,152	2,004,814
1979	TOTAL	682,819	473,307	841,903	73,070	2,071,101
1980	January	65,841	39,578	67,532	6,634	179,585
	February	64,514	39,528	68,508	6,171	178,720
	March	60,497	38,762	69,086	6,028	174,373
	April	51,749	36,453	67,908	5,591	161,702
	May	45,699	36,110	67,235	5,807	154,851
	June	52,267	40,129	66,739	5,737	164,872
	July	68,611	45,525	65,531	6,215	185,882
	August	75,020	47,763	67,415	6,266	196,464
	September	67,969	46,028	69,570	6,572	190,139
	October	R54,014	R40,479	R69,413	6,174	R170,080
	November	50,539	37,954	67,613	6,068	162,174
	December	60,775	39,846	68,517	6,469	175,607
	TOTAL	R717,495	R488,156	R815,067	73,732	R2,094,449
1981	January	72,240	42,120	67,087	6,830	188,277
	February	64,588	40,244	67,394	6,387	178,613
	March	56,238	38,586	68,599	6,366	169,789
	April	49,624	36,975	68,136	5,953	160,688
	May	47,281	38,409	68,761	6,191	160,642
	June	54,997	43,130	71,615	6,237	175,979
	July	68,901	47,859	71,716	6,532	195,008
	August	69,224	47,842	72,021	6,553	195,640
	September	60,173	45,877	70,986	6,585	183,620
	October	51,985	41,175	69,132	6,388	168,679
	TOTAL (Year-to-date)	595,251	422,217	695,447	64,022	1,776,935

Geographic coverage: the 50 United States and District of Columbia.

Totals may not equal sum of components due to independent rounding.

¹Electricity sales to all ultimate consumers.

²Includes street lighting and transportation uses.

R = Revised data.

Source: *1973 through February 1980: FPC Form 5, "Monthly Statement of Electric Operating Revenue and Income"; March 1980 forward: FERC Form 5, "Electric Utility Company Monthly Statement."

Electric Utilities

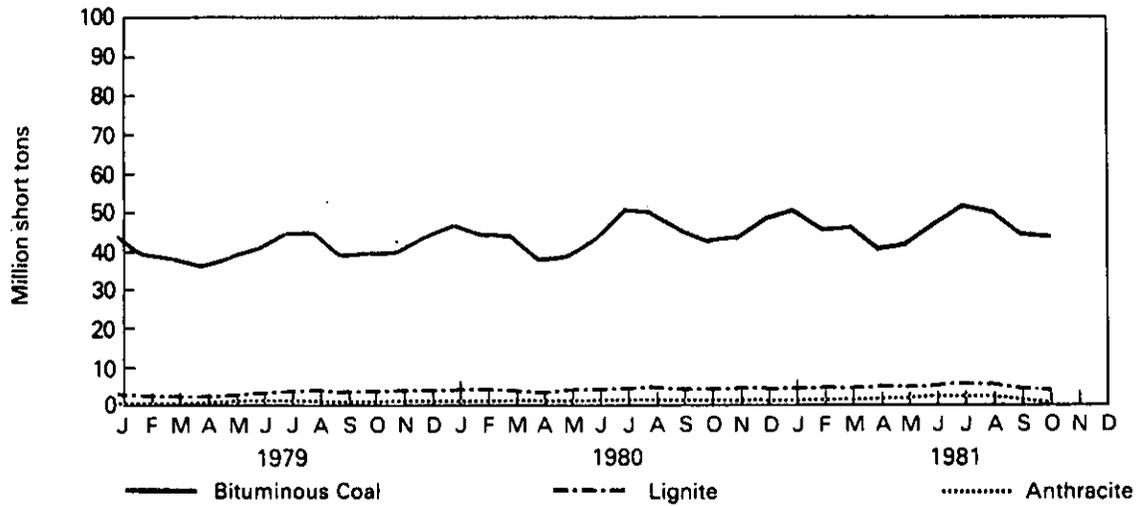
Primary Energy Consumed to Produce Electricity

		Coal				Petroleum				Natural Gas
		Anthracite	Bituminous Coal	Lignite	Total	Steam	Gas Turb./ Int. Comb.	Total Liquids	Petroleum Coke	
		Thousand short tons				Thousand barrels			Thousand short tons	Million cubic feet
1973	TOTAL	1,443	376,975	10,794	389,212	513,190	47,058	560,248	507	3,660,172
1974	TOTAL	1,498	378,643	11,670	391,811	483,146	53,128	536,274	625	3,443,428
1975	TOTAL	1,480	388,523	15,960	405,962	467,221	38,907	506,128	70	3,157,669
1976	TOTAL	1,350	425,205	21,817	448,371	514,077	41,843	555,920	68	3,080,868
1977	TOTAL	1,425	451,051	24,650	477,126	574,869	48,837	623,706	98	3,191,200
1978	TOTAL	1,064	448,763	31,407	481,235	588,319	47,520	635,839	398	3,188,363
1979	TOTAL	1,046	488,129	37,876	527,051	492,606	30,691	523,297	268	3,490,523
1980	January	74	46,518	3,779	50,371	40,695	2,197	42,892	54	276,743
	February	72	43,969	3,471	47,512	40,231	1,919	42,150	21	263,771
	March	83	43,244	3,357	46,685	33,406	1,379	34,785	13	283,945
	April	71	37,971	2,651	40,692	26,867	673	27,540	7	256,606
	May	86	38,116	3,262	41,464	26,991	840	27,831	11	281,886
	June	89	42,073	3,658	45,821	29,551	1,138	30,689	11	336,894
	July	93	49,815	3,746	53,655	37,297	2,791	40,088	11	420,339
	August	80	49,077	4,057	53,214	40,019	2,833	42,852	15	405,343
	September	84	44,487	3,342	47,913	29,367	1,286	30,653	11	357,286
	October	73	41,819	3,200	45,092	26,269	689	26,958	8	301,266
	November	56	42,379	3,263	45,698	32,782	1,320	34,102	7	255,559
	December	89	47,212	3,856	51,157	38,387	1,285	39,672	9	241,957
	TOTAL	951	526,680	41,642	569,274	401,863	18,351	420,214	179	3,681,595
1981	January	81	50,304	3,972	54,357	41,556	2,027	43,583	10	231,606
	February	58	44,583	3,272	47,914	28,948	1,049	29,997	9	224,003
	March	75	45,168	3,155	48,398	28,492	784	29,276	9	272,348
	April	73	40,535	3,069	43,677	25,028	557	25,585	7	287,679
	May	91	41,405	3,503	44,999	23,958	967	24,925	14	314,767
	June	105	46,500	3,383	49,988	30,673	1,741	32,413	13	386,972
	July	102	51,705	4,337	56,144	32,577	1,720	34,297	11	409,979
	August	133	50,010	4,184	54,328	26,630	586	27,216	13	390,587
	September	98	44,557	3,828	48,483	25,762	520	26,282	13	324,824
	October	115	44,161	3,524	47,800	26,646	556	27,201	15	301,578
	TOTAL (Year-to-date)	932	458,929	36,227	496,088	290,270	10,507	300,777	115	3,144,344

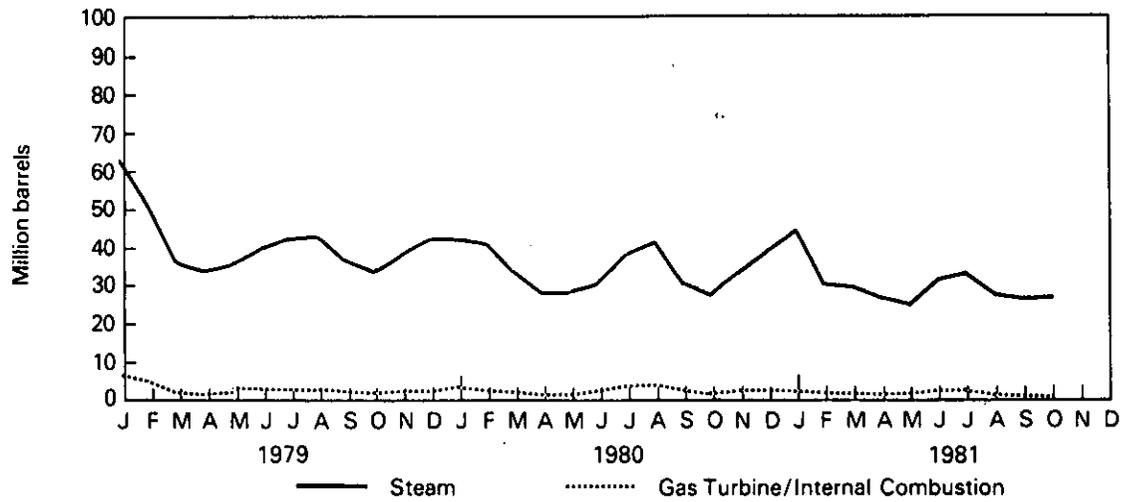
Geographic coverage: the 50 United States and District of Columbia.
 Totals may not equal sum of components due to independent rounding.
 Source: *Federal Power Commission, Form 4, "Monthly Power Plant Report."

Electric Utilities

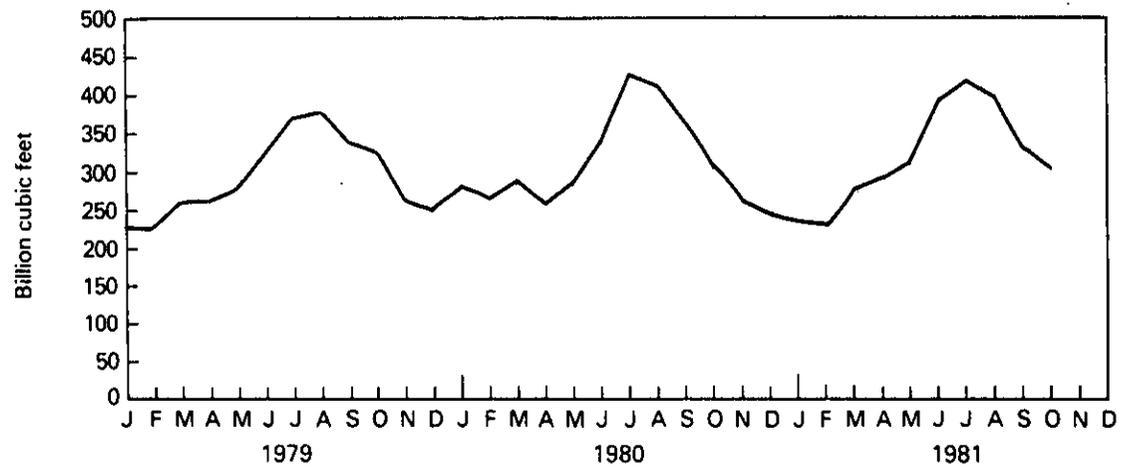
Coal Consumption



Petroleum Consumption



Natural Gas Consumption



Electric Utilities

End-of-Month Coal and Petroleum Stocks

		Coal				Petroleum ¹			
		Anthracite	Bituminous Coal	Lignite	Total	Steam	Gas Turb./ Int. Comb.	Total Liquids	Petroleum Coke
		Thousand short tons				Thousand barrels			Thousand short tons
1973		‡1,066	‡84,941	‡961	‡86,967	‡79,121	‡10,095	‡89,216	‡312
1974		‡930	‡81,712	‡867	‡83,509	‡97,718	‡15,199	‡112,917	‡35
1975		‡982	‡107,927	‡1,815	‡110,724	‡108,825	‡16,432	‡125,257	‡31
1976		‡1,000	‡114,130	‡2,306	‡117,436	‡106,993	‡14,703	‡121,696	‡32
1977		‡2,321	‡128,210	‡2,688	‡133,219	‡124,750	‡19,281	‡144,031	‡44
1978		‡2,178	‡123,020	‡3,027	‡128,225	‡102,402	‡16,386	‡118,788	‡198
1979		‡3,274	‡152,981	‡3,459	‡159,714	‡111,121	‡20,301	‡131,422	‡183
1980	January	3,371	151,891	3,455	158,717	114,313	19,597	133,909	175
	February	3,451	150,151	3,522	157,124	111,353	19,055	130,409	168
	March	3,488	151,022	3,116	157,625	116,246	18,934	135,180	154
	April	3,533	158,441	3,843	165,817	118,824	19,201	138,025	103
	May	3,725	166,325	3,980	174,029	123,043	19,485	142,529	69
	June	3,838	171,042	4,079	178,959	124,177	19,273	143,450	65
	July	3,955	161,159	3,691	168,806	121,596	18,680	140,276	65
	August	4,098	163,756	4,036	171,891	118,514	18,150	136,664	63
	September	4,291	166,515	4,262	175,067	122,240	18,064	140,304	61
	October	4,481	173,411	4,153	182,045	124,046	18,398	142,445	60
	November	4,661	175,489	3,983	184,133	119,863	18,051	137,915	53
	December	4,741	174,154	4,115	183,010	117,227	18,147	135,374	52
1981	January	4,824	167,884	4,267	176,975	109,915	18,280	128,195	51
	February	4,859	166,552	4,304	175,715	112,439	17,397	129,836	52
	March	4,951	174,554	4,478	183,983	111,105	17,502	128,607	52
	April	5,035	159,318	4,541	168,894	108,848	17,205	126,053	52
	May	5,008	142,188	4,907	152,103	111,758	17,068	128,826	52
	June	5,081	134,321	5,119	144,520	109,313	18,027	127,341	49
	July	5,802	129,684	5,171	140,656	110,294	16,883	127,177	48
	August	5,337	132,068	4,909	142,315	113,472	16,833	130,305	47
	September	5,428	138,808	5,290	149,526	112,771	16,588	129,359	46
	October	5,512	148,952	5,213	159,676	111,578	16,220	127,798	44

Geographic coverage: the 50 United States and District of Columbia.

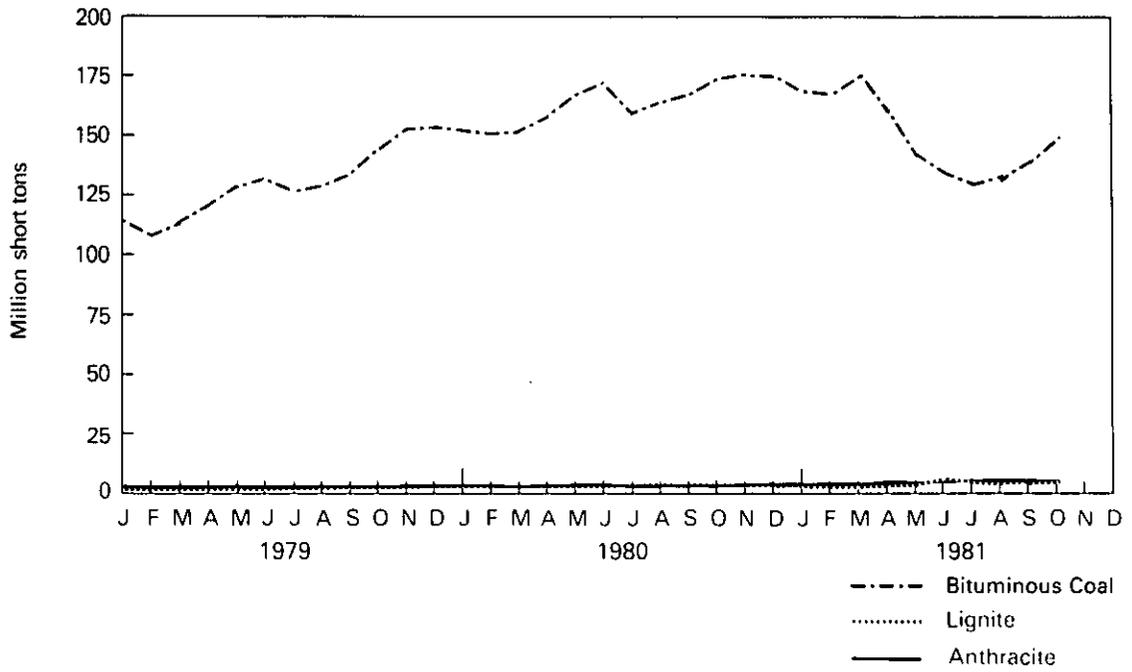
Totals may not equal sum of components due to independent rounding.

‡Total as of December 31.

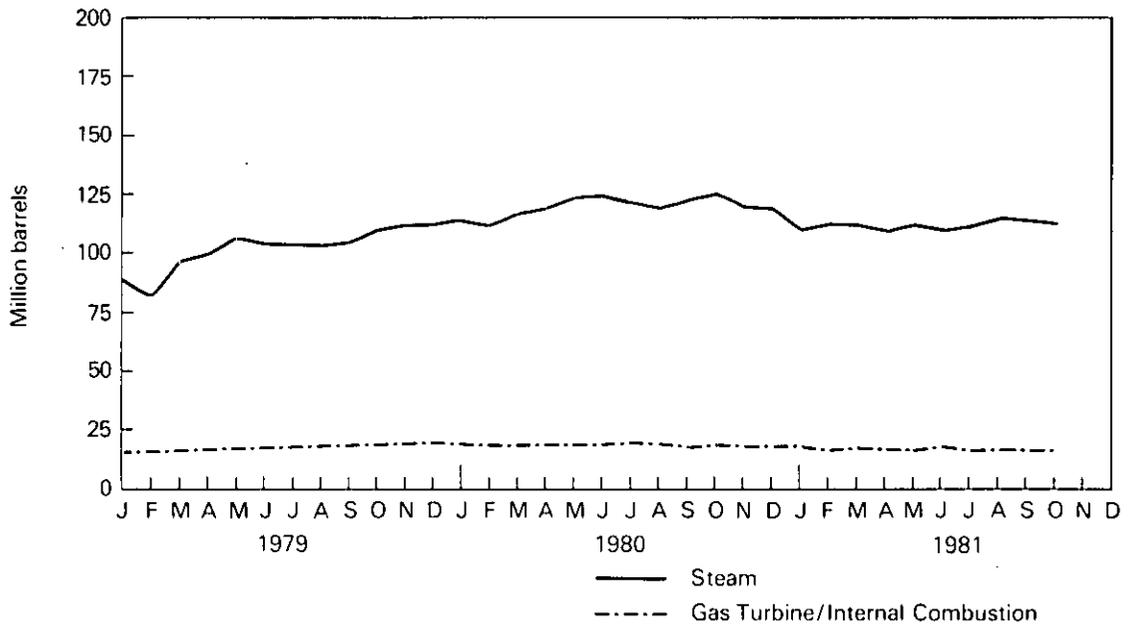
Source: ¹Federal Power Commission, Form 4, "Monthly Power Plant Report."

Electric Utilities

Coal Stocks (Bituminous Coal, Lignite, and Anthracite)



Petroleum Stocks



Nuclear

During October 1981, operating domestic nuclear power reactors generated a total of 20.6 billion net kilowatt-hours of electricity, 15.7 percent below September 1981 output and 16.1 percent below October 1980 generation. Nuclear power accounted for 11.3 percent of U.S. commercial electricity generation in October 1981.

In October 1981, the Union Electric Co. terminated construction of the Callaway-2 reactor with a design capacity of 1,150 net megawatts (MWe), thus reducing the number of units with "Construction Permits Granted" in the Status of Nuclear Reactor Units table and decreasing the total reactor units to 166. Callaway-2 was the third domestic power reactor to be cancelled within a 2-month interval, the other two units being Bailly (design capacity of 643.8 MWe) and Pilgrim-2 (design capacity of 1,150 MWe). Salem-2 went into commercial operation in October, although this action did not affect the "Status" table figures.

As of October 31, 1981, combined maximum dependable capacity of the 75 operational domestic power reactors was 56,869 MWe. Of these 75 units, 2 units (McGuire-1 and Sequoyah-2) were in power ascension, 1 unit (Diablo Canyon-1) was licensed for low-power testing, and 23 units (Duane Arnold, Connecticut Yankee, Cook-2, Cooper, Crystal River-3, Farley-1, Ft. Calhoun, Hanford-1, Hatch-1, Oconee-1 and -2, Palisades, Peach Bottom-3, Pilgrim-1, Prairie Island-1, Quad Cities-2, Rancho Seco, St. Lucie-1, San Onofre-1, Sequoyah-1, Three Mile Island-1, Turkey Point-3, and Zion-2), which are almost a third of the operational power reactors, generated no electricity or operated substantially below capacity during October.

Nuclear

Nuclear Powerplant Operations

		Reactors Licensed For Commercial Operations ^{1, 2}	Nuclear-Based Electricity Generation ³	Nuclear Portion of Domestic Electricity Generation	Maximum Dependable Capacity ⁴	Capacity Factor ⁵
				Million net kilowatt-hours		
1973	AVERAGE	40	83,479	4.5	13.850	63.2
1974	AVERAGE	53	113,976	6.1	29.921	43.5
1975	AVERAGE	56	172,505	9.0	35.671	55.2
1976	AVERAGE	62	191,104	9.4	40.642	53.5
1977	AVERAGE	67	250,883	11.8	45.554	62.9
1978	AVERAGE	71	276,403	12.5	49.385	63.9
1979	AVERAGE	71	255,155	11.4	50.604	57.6
1980	January	71	19,746	9.9	49.945	53.1
	February	72	19,277	10.2	51.055	54.3
	March	72	20,039	10.7	51.031	52.8
	April	74	18,794	11.1	53.040	49.3
	May	74	18,385	10.5	53.040	46.6
	June	74	18,322	9.7	53.040	48.0
	July	74	21,024	9.7	54.064	52.3
	August	74	24,333	11.3	53.957	60.6
	September	74	23,572	12.3	53.855	60.8
	October	75	24,510	13.7	54.724	60.1
	November	75	20,984	11.8	54.737	53.2
	December	75	22,130	11.3	54.749	54.3
		AVERAGE	74	251,116	11.0	53.103
1981	January	75	23,368	11.4	55.853	56.2
	February	75	21,595	12.0	55.830	57.6
	March	75	22,004	11.9	55.818	53.0
	April	75	20,646	12.0	55.817	51.4
	May	75	19,723	11.1	55.841	47.5
	June	76	21,166	10.4	56.981	51.6
	July	74	23,080	10.5	55.840	55.6
	August	74	26,946	12.8	55.840	64.9
	September	75	24,398	13.1	56.924	59.5
	October	75	20,556	11.3	56.869	48.5
		AVERAGE	75	223,483	11.6	56.161

Geographic coverage: the 50 United States and District of Columbia.

¹See next table (Reactor Status Table) for explanation and sources.

²Dresden-1 (capacity=200 MWe) and Three Mile Island-2 (capacity=906 MWe) units are excluded from all tabulations as of July 1, 1981, reflecting the fact that these units have each been inoperative for several years and are likely to remain so for indefinite or extended periods.

³Electricity generation entries represent yearly or monthly totals rather than averages.

⁴See Explanatory Note 11.

⁵Average percentage of the net Maximum Dependable Capacity utilized yearly or monthly.

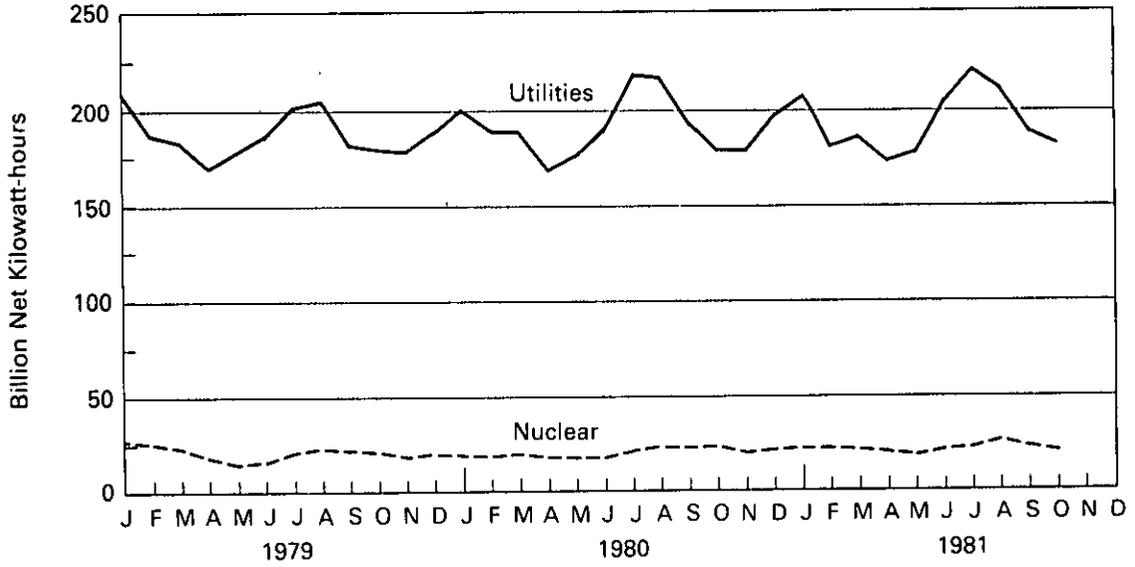
Sources: • Capacity data for units in commercial operation or start-up testing—Nuclear Regulatory Commission, 'Licensed Operating Reactors.'

• Generation Data—FPC Form 4, 'Monthly Power Plant Report.'

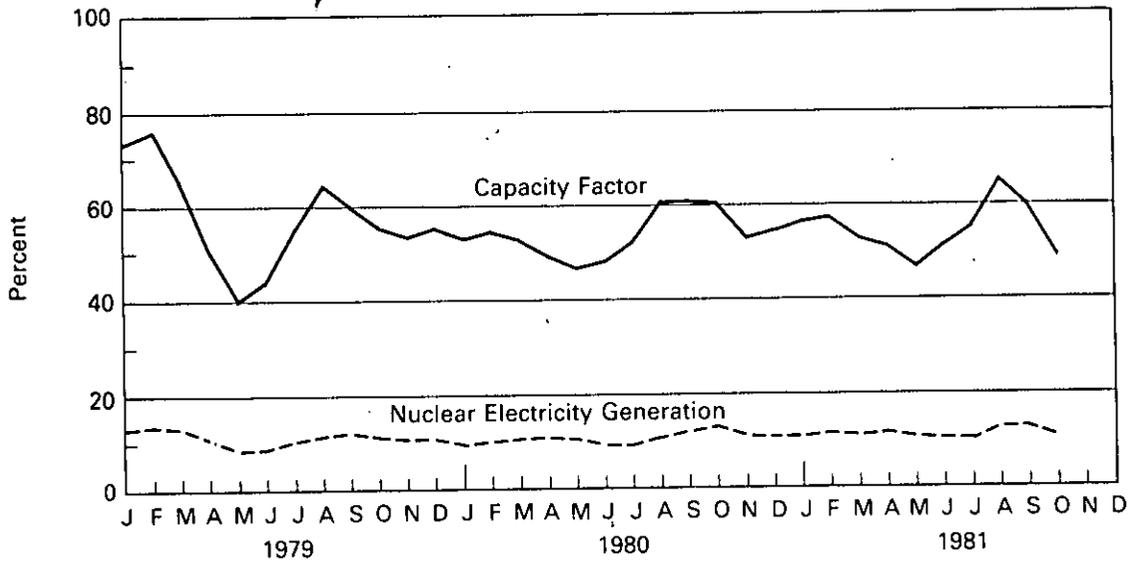
Nuclear

Nuclear Powerplant Operations

Electricity Generated by Utilities and by Nuclear Powerplants



Nuclear Portion of Electricity Generation and Capacity Factor*



*Percentage of Maximum Dependable Capacity utilized.

Nuclear

Status of Nuclear Reactor Units¹

		Reactors Licensed For Commercial Operations ²	Construction Permits Granted ³	Construction Permits Pending ³	Reactor Units on Order	Reactor Units Announced	Total Reactor Units	Total Design Capacity ⁴ (Million Net Kilowatts)
1973		40	51	58	48	20	217	212
1974		53	58	80	28	16	235	234
1975		56	69	73	19	19	236	236
1976		62	72	66	16	19	235	236
1977		67	80	52	13	9	221	220
1978		71	90	32	9	4	206	204
1979		71	91	21	3	0	186	180
1980	January	71	90	17	3	0	181	174
	February	72	89	16	3	0	180	173
	March	72	87	14	3	0	176	169
	April	74	85	14	3	0	176	169
	May	74	85	14	3	0	176	169
	June	74	85	14	3	0	176	169
	July	74	85	14	3	0	176	169
	August	74	85	14	3	0	176	169
	September	74	85	14	3	0	176	169
	October	75	84	14	3	0	176	169
	November	75	82	14	3	0	174	167
	December	75	82	12	3	0	172	164
1981	January	75	81	12	3	0	171	164
	February	75	81	12	3	0	171	164
	March	75	81	12	3	0	171	164
	April	75	81	12	3	0	171	164
	May	75	81	12	3	0	171	164
	June	76	80	12	3	0	171	164
	July	74	80	12	3	0	169	163
	August	74	79	12	3	0	168	162
	September	75	78	11	3	0	167	161
	October	75	77	11	3	0	166	160

Geographic coverage: the 50 United States and District of Columbia.

¹Monthly data are the status as of the last day of the month. Annual data are the status as of December 31 of each year.

²These figures include reactors in fuel-loading, power-testing, and power-ascension stages. They also include two Department of Energy dual-purpose reactors, Shippingport and Hanford, which are not licensed by the NRC but do generate electricity on a commercial basis. Not included in the above table is the Experimental Breeder Reactor-2 which does generate electricity but does not distribute it commercially. Three reactors which have been inoperative for at least 2 years have been dropped from this list due to their uncertain futures. Humboldt Bay which requires major seismic modifications was dropped from the list in January 1981. Dresden-1, which is undergoing major modifications, and Three Mile Island-2, which was shut down due to an accident in March 1979, were dropped from the list in July 1981.

³Although New Haven-1, -2 and Jamesport-1, -2 still remain on the NRC docket as reactor units for which construction permits are either granted or pending, these 4 units were dropped from the above table (in November 1979 and March 1980, respectively) when applications for their construction were rejected by New York State.

⁴See Explanatory Note 11.

Sources: • Compiled from various sources, primarily the Nuclear Energy, Office of Nuclear Reactor Programs, 'U.S. Central Station Nuclear Electric Generating Units: Significant Milestones,' and from the Energy Information Administration, Office of Coal, Nuclear and Alternate Fuels.

Price

Crude Oil

The average price of domestic crude oil purchased at the wellhead was \$30.99 per barrel in October 1981. This was 0.4 percent below the previous month's level, and 33.4 percent above the level in October 1980. Due to the January 1981 decontrol order, prices are no longer available by regulatory price categories.

During October 1981, the composite refiner acquisition cost of crude oil was \$34.07 per barrel, \$0.04 per barrel (0.1 percent) below the previous month's price of \$34.11. The imported price decreased \$0.01 per barrel from the September 1981 level to \$35.43 per barrel in October. This price was 2.3 percent above the October 1980 level. The domestic price in October 1981 was \$33.48, an increase of \$0.01 per barrel from the September average.

Residual Fuel Oil

The average price, excluding taxes, for No. 6 residual fuel oil sold to utilities, industry, and other ultimate consumers in September 1981 was \$30.02 per barrel, \$0.50 per barrel (1.6 percent) below the previous month's price and 18.6 percent over the September 1980 average. The average price, excluding taxes, for No. 6 residual fuel oil sold to resellers, bulk plants, jobbers, and other wholesale accounts in September 1981 was \$26.19 per barrel, \$0.82 per barrel (3.0 percent) below the August 1981 average and a 16.6 percent increase over the September 1980 average.

Heating Oil

The national average price of heating oil sold to residential customers in October 1981 was 118.8 cents per gallon. This was 0.8 percent below the selling price in Sep-

tember 1981 and 20.4 percent above the October 1980 price. The average distributor margin on residential heating oil in October was 16.6 cents per gallon, 8.5 percent above the margin during October 1980. Refiners' national average selling price to resellers and retailers was 98.0 cents per gallon in October 1981, 21.4 percent above the October 1980 average.

Aviation Fuel

The average price, excluding taxes, for kerosene-type jet fuel sold to commercial airlines, Department of Defense, and other ultimate consumers in September 1981 was 103.3 cents per gallon, unchanged from the previous month's average and a 16.3 percent increase over the September 1980 average.

Motor Gasoline

The national average retail price for all grades and all types of motor gasoline was 135.1 cents per gallon in November 1981. Leaded regular gasoline at all types of stations sold for an average of 129.7 cents per gallon in November, 0.2 cents lower (0.2 percent) than the price in October. The price for unleaded regular gasoline at all types of stations was 136.9 cents per gallon in November, 0.2 cents lower (0.1 percent) than the price in October.

Liquefied Petroleum Gases

The average wholesale price for propane during September 1981 (excluding taxes) was 47.6 cents per gallon, 0.8 percent above the previous month's level and 15.0 percent above the September 1980 level.

In September 1981, the average wholesale price for butane, excluding taxes, was 64.4 cents per gallon, 6.3 percent above the previous month's price and 25.8 percent above the September 1980 average.

Price

Petroleum Price Summary

	Actual Domestic Average Wellhead Price ¹	Refiner Acquisition Cost of Crude Oil ²			No. 6 Residual Oil Price Average ³	
		Domestic	Imported	Composite	Wholesale ⁴	Retail ⁴
Dollars per barrel						
1976 AVERAGE	8.19	8.84	13.48	10.89	10.72	11.49
1977 AVERAGE	8.57	9.55	14.53	11.96	11.96	13.23
1978 AVERAGE	9.00	10.61	14.57	12.46	11.51	12.75
1979 AVERAGE	12.64	14.27	21.67	17.72	17.66	18.67
1980						
January	17.86	19.78	30.75	24.81	24.41	26.21
February	18.81	21.22	32.40	26.11	23.34	26.48
March	19.34	22.07	33.42	26.88	21.11	25.33
April	20.29	22.89	33.54	27.09	19.09	22.87
May	21.01	23.63	34.33	27.85	20.22	23.75
June	21.53	24.48	34.48	28.80	20.44	24.09
July	22.26	25.05	34.51	28.73	21.28	23.86
August	22.63	24.98	34.44	28.70	22.25	25.00
September	22.59	25.37	34.46	28.96	22.47	25.31
October	23.23	26.21	34.63	29.56	24.06	26.68
November	23.92	26.51	35.09	29.79	28.12	30.10
December	25.80	28.55	35.63	31.39	29.76	32.33
AVERAGE	21.19	24.23	33.89	28.07	23.14	26.09
1981						
January	28.85	32.71	38.85	34.86	31.14	33.65
February	34.14	36.27	39.00	37.28	31.81	36.04
March	34.70	36.97	38.31	37.48	31.78	36.11
April	34.05	35.58	38.41	36.58	30.56	34.70
May	32.71	35.21	37.84	36.11	30.41	34.11
June	31.71	34.20	37.03	35.03	25.95	31.03
July	31.13	33.76	36.58	34.70	26.52	30.57
August	31.13	33.79	35.82	34.46	27.01	30.52
September	31.13	R33.47	R35.44	R34.11	†26.19	†30.02
October	†30.99	†33.48	†35.43	†34.07	NA	NA
November	NA	NA	NA	NA	NA	NA
AVERAGE	NA	NA	NA	NA	NA	NA

Geographic coverage: Actual domestic average wellhead prices and No. 6 residual oil prices—the 50 United States and District of Columbia. Refiner acquisition cost of crude oil—the 50 United States, District of Columbia, Puerto Rico, Guam, and the Virgin Islands.

¹See Explanatory Note 12.

²See Explanatory Note 13.

³Wholesale refers to the price of residual fuel sold to other refiners and resellers, including bulk plants, branded and unbranded jobbers, and other residual dealers. Retail refers to the price at which residual fuel oil is sold to ultimate consumers such as utility, industrial, commercial, and residential accounts.

⁴Excludes tax.

†Preliminary data. R=Revised data. NA=Not available.

Sources: •Actual domestic average—January 1976: FEA Form 90, "Crude Petroleum Production Monthly Report"; February 1976 forward: ERA Form 182, "Domestic Crude Oil First Purchase Report."

•Refiner acquisition cost—January 1976: Form FEO 96, "Monthly Cost Allocation Report"; February 1976 through June 1978: FEA Form P110-M-1, "Refiners' Monthly Cost Allocation Report"; July 1978 through December 1980: ERA Form 49, "Domestic Crude Oil Entitlements Program Refiners Monthly Report"; January 1981 forward: Form EIA-14, "Refiners' Monthly Cost Report."

•No.6 residual oil price—FEA Form P302-M-1/EIA-460, "Petroleum Industry Monthly Report for Product Prices."

Price

Petroleum Price Summary (continued)

	No. 2 Diesel Price Average ¹		No. 2 Heating Oil Price Average		Gasoline Price Average All Types ²	Propane Price Average ³	Butane Price Average ³
	Wholesale ⁴	Retail ⁴	Wholesale	Retail	Retail	Wholesale ⁴	Wholesale ⁴
Cents per gallon							
1976 AVERAGE	31.9	34.7	32.6	40.6	NA	20.6	21.9
1977 AVERAGE	36.1	39.3	36.9	46.0	NA	25.0	25.4
1978 AVERAGE	37.1	40.2	38.7	49.4	65.2	24.0	23.0
1979 AVERAGE	58.2	62.4	53.0	65.6	88.2	29.5	45.8
1980							
January	76.0	82.2	75.2	90.8	111.0	41.8	73.3
February	78.3	85.0	79.0	95.3	118.6	42.7	70.1
March	79.8	87.8	80.4	97.1	123.0	41.0	66.8
April	80.4	88.0	81.0	97.4	124.2	41.2	63.1
May	80.5	87.8	81.4	97.2	124.4	41.7	63.7
June	81.7	88.6	82.5	97.9	124.6	41.2	58.2
July	81.9	87.6	83.0	97.9	124.7	40.8	53.8
August	81.6	86.9	82.9	97.9	124.3	40.6	53.1
September	80.3	86.6	83.0	98.1	123.1	41.4	51.2
October	81.5	85.9	83.7	98.7	122.3	43.2	54.3
November	83.6	88.9	86.1	101.1	122.2	45.1	65.5
December	87.5	92.4	91.3	106.5	123.1	46.5	72.7
AVERAGE	81.2	87.3	82.2	97.8	122.1	42.4	62.9
1981							
January	92.5	100.9	98.6	114.4	126.9	46.5	66.1
February	99.5	106.1	106.0	123.4	135.3	48.2	63.0
March	101.7	108.8	106.3	125.5	138.8	48.3	62.1
April	101.3	107.7	105.2	123.9	138.1	49.3	60.1
May	100.8	106.8	104.0	122.7	137.0	48.6	56.8
June	99.5	106.6	103.0	120.9	136.2	46.0	52.7
July	98.8	103.8	102.7	121.0	135.3	46.0	56.5
August	R97.8	R105.9	102.2	119.4	134.8	47.2	60.6
September	†97.8	†104.8	R101.6	R119.7	135.8	†47.6	†64.4
October	NA	NA	†101.1	†118.8	135.3	NA	NA
November	NA	NA	NA	NA	135.1	NA	NA
AVERAGE	NA	NA	NA	NA	NA	NA	NA

Geographic coverage: the 50 United States and District of Columbia.

¹Wholesale refers to the price of diesel fuel sold to other refiners and resellers, including branded jobbers, unbranded jobbers, and commercial accounts. Retail refers to the price at which company-owned and operated retail dealers sell to customers.

²Beginning with September 1981, the Bureau of Labor Statistics changed the weights used in the calculation of average motor gasoline prices. In the average for all types category, gasohol is now included and unleaded premium is weighted more heavily. See Explanatory Note 16 for additional information on motor gasoline prices.

³Wholesale refers to the price at which refiners, resellers, retailers and gas plants sell to one another, including sales to agricultural and industrial accounts. Excludes butane/propane mixtures.

⁴Excludes tax.

†Preliminary data. R=Revised data. NA=Not available.

Sources: •No. 2 diesel price—FEA Form P302-M-1/EIA-460, "Petroleum Industry Monthly Report for Product Prices."

•No. 2 heating oil price—1976 through October 1980: FEA Form P112-M-1/EIA-9, "No. 2 Heating Oil Supply/Price Monitoring Report"; November 1980 forward: EIA-9A "No. 2 Distillate Price Monitoring Report."

•Gasoline price—Bureau of Labor Statistics.

•Propane and butane prices—FEA Form P302-M-1/EIA-460, "Petroleum Industry Monthly Report for Product Prices."

Price

FOB Cost of Crude Oil Imports from Selected Countries¹

		Algeria	Indonesia	Iran	Libya	Mexico	Nigeria	Saudi Arabia	United Arab Emirates	United Kingdom	Venezuela
		Dollars per barrel									
1976	AVERAGE	13.05	12.76	11.61	12.55	NA	13.08	11.69	11.94	NA	11.32
1977	AVERAGE	14.36	13.57	12.67	13.90	13.42	14.44	12.37	12.83	NA	12.68
1978	AVERAGE	14.10	13.64	12.65	13.75	13.24	14.04	12.70	13.24	13.82	12.45
1979	AVERAGE	20.65	19.35	23.71	22.43	20.29	21.80	17.63	19.58	21.20	17.37
1980	January	33.67	29.67	29.28	35.72	29.43	31.57	26.25	29.85	30.77	25.34
	February	34.03	31.11	NA	35.71	31.77	33.39	26.62	30.95	32.66	24.82
	March	36.74	31.54	(²)	35.88	30.56	35.59	26.85	29.34	34.34	24.03
	April	36.93	32.22	(²)	35.30	30.24	36.11	27.78	30.38	34.15	23.85
	May	37.10	32.40	(²)	36.13	30.68	36.50	28.50	32.67	34.10	24.82
	June	37.61	32.90	(²)	36.83	30.76	36.99	28.95	33.34	36.28	25.56
	July	38.40	33.19	(²)	37.26	31.84	37.17	28.47	NA	36.26	24.34
	August	37.53	33.01	(²)	37.01	31.87	36.69	29.74	NA	34.83	25.30
	September	37.21	33.13	(²)	36.94	31.21	36.38	30.34	NA	35.18	24.21
	October	37.60	32.31	(²)	37.15	31.27	36.82	30.19	NA	35.66	22.71
	November	37.05	32.94	(²)	36.90	31.59	36.87	31.43	NA	35.47	26.83
	December	37.37	33.21	(²)	37.58	32.33	36.79	32.01	NA	35.00	26.66
		AVERAGE	36.57	32.37	(²)	36.41	31.11	35.82	28.53	NA	34.58
1981	January	39.37	36.54	(²)	40.52	35.88	40.11	32.39	NA	38.34	32.87
	February	40.13	36.13	(²)	40.73	36.57	40.03	32.60	NA	39.41	30.36
	March	40.30	36.40	(²)	40.25	35.60	39.85	32.73	NA	39.50	31.24
	April	39.70	36.38	(²)	40.04	33.81	39.92	32.41	NA	38.85	29.93
	May	39.57	36.09	(²)	38.91	34.45	39.11	32.13	NA	37.16	28.39
	June	39.20	36.95	(²)	39.85	30.30	38.44	32.42	NA	35.84	30.50
	July	38.06	35.47	(²)	38.70	32.72	39.25	32.07	NA	34.89	29.25
	August	39.34	35.61	(²)	39.45	31.23	39.55	31.95	NA	34.38	27.08
	September	39.60	35.82	(²)	36.74	30.37	36.04	32.09	NA	34.44	28.14
	October†	37.41	35.08	(²)	36.83	30.76	35.49	33.68	NA	34.89	28.11

¹The Free on Board (FOB) cost excludes all costs related to insurance and transportation. See Explanatory Note 14.

²No crude oil has been imported from Iran since February 1980.

†Preliminary data. NA=Not available.

Note: Prices shown for 1980 are for the month of loading; whereas prior to 1980 the prices are for the month of reporting.

Sources: 1976 through January 1979: FEA Form 701-M-0, "Transfer Pricing Report";

• February 1979 forward: Economic Regulatory Administration Form 51, "Transfer Pricing Report."

Price

Landed Cost of Crude Oil Imports from Selected Countries¹

		Algeria	Canada	Indonesia	Iran	Libya	Mexico	Nigeria	Saudi Arabia	United Arab Emirates	United Kingdom	Venezuela
		Dollars per barrel										
1975	AVERAGE	12.72	12.72	13.79	12.21	12.35	NA	12.62	12.30	12.87	NA	11.65
1976	AVERAGE	13.81	13.57	13.82	12.82	13.58	NA	13.80	13.04	13.30	NA	11.80
1977	AVERAGE	15.20	14.21	14.63	13.80	14.87	13.75	15.25	13.61	14.04	NA	13.13
1978	AVERAGE	14.91	14.50	14.64	13.88	14.72	13.54	14.86	13.92	14.39	NA	12.83
1979	AVERAGE	21.90	20.43	20.69	25.02	23.68	20.86	22.96	19.15	21.90	22.16	18.18
1980	January	35.32	27.73	31.03	30.37	37.10	30.18	33.03	27.85	32.35	32.14	26.25
	February	35.28	28.60	32.95	NA	36.98	32.38	35.25	28.15	32.71	34.07	25.91
	March	38.54	30.75	33.04	(²)	37.18	31.17	36.93	28.26	30.96	35.73	24.97
	April	38.52	30.31	33.81	(²)	36.57	30.77	37.41	29.14	32.29	35.34	25.10
	May	38.54	31.16	33.73	(²)	37.36	31.22	37.53	30.30	34.06	35.82	25.93
	June	38.71	31.26	34.51	(²)	38.09	31.43	38.15	30.16	34.96	37.41	26.42
	July	39.60	31.31	34.81	(²)	38.39	32.60	38.23	30.04	NA	37.25	25.47
	August	38.60	31.44	34.81	(²)	38.38	32.62	37.77	31.24	NA	36.20	26.37
	September	38.28	30.97	34.64	(²)	38.30	31.93	37.60	31.86	NA	36.35	25.47
	October	38.77	29.22	33.65	(²)	38.53	31.96	37.75	31.73	NA	36.82	23.92
	November	38.41	28.81	34.55	(²)	38.22	32.42	37.97	32.86	NA	36.62	27.75
	December	38.63	32.72	34.64	(²)	39.04	33.76	38.11	33.40	NA	36.31	27.66
		AVERAGE	37.90	30.47	33.92	(²)	37.72	31.80	37.05	30.02	NA	35.88
1981	January	41.25	34.26	38.08	(²)	41.81	36.81	41.55	34.06	NA	39.90	33.80
	February	41.90	33.73	37.86	(²)	42.19	37.23	41.46	34.38	NA	40.69	31.20
	March	41.62	33.88	38.11	(²)	41.60	36.42	40.98	34.42	NA	40.72	32.09
	April	40.96	33.74	37.95	(²)	41.58	34.42	41.04	34.16	NA	40.02	30.97
	May	40.81	32.70	37.72	(²)	40.46	34.83	40.10	33.73	NA	38.31	29.39
	June	40.31	32.67	38.73	(²)	41.44	31.03	39.60	34.29	NA	37.04	31.46
	July	39.59	31.19	37.20	(²)	40.27	33.18	40.05	33.72	NA	35.87	29.22
	August	40.65	30.44	37.07	(²)	40.30	31.77	40.85	33.23	NA	35.40	28.11
	September	41.62	30.83	37.52	(²)	37.73	30.84	37.20	33.66	NA	35.26	29.12
	October†	38.07	31.17	36.39	(²)	38.77	31.21	36.64	35.03	NA	36.07	29.01

¹See Explanatory Note 15.

²No crude has been imported from Iran since February 1980.

†Preliminary data. NA=Not available.

Note: Prices shown for 1980 are for the month of loading; whereas prior to 1980 prices are for the month of reporting.

Sources: • 1975 through January 1979: Economic Regulatory Administration (ERA), FEA Form F701-M-0, "Transfer Pricing Report."

• February 1979 forward: ERA 51, "Transfer Pricing Report."

Price

U.S. City Average Retail Prices for Motor Gasoline¹

		Leaded Regular	Unleaded Regular	Leaded Premium	Average for All Types
Cents per gallon, including tax					
1974	AVERAGE	53.2	NA	56.9	NA
1975	AVERAGE	56.7	NA	60.9	NA
1976	AVERAGE	59.0	61.4	63.6	NA
1977	AVERAGE	62.2	65.6	67.4	NA
1978	AVERAGE	62.6	67.0	69.4	65.2
1979	AVERAGE	85.7	90.3	92.2	88.2
1980	January	108.6	113.1	114.9	111.0
	February	115.9	120.7	123.3	118.6
	March	120.2	125.2	127.7	123.0
	April	121.2	126.4	129.2	124.2
	May	121.5	126.6	129.5	124.4
	June	121.7	126.9	130.0	124.6
	July	121.6	127.1	130.7	124.7
	August	121.0	126.7	131.0	124.3
	September	119.7	125.7	130.4	123.1
	October	118.8	125.0	130.1	122.3
	November	118.8	125.0	129.9	122.2
	December	119.7	125.8	131.0	123.1
	AVERAGE	119.1	124.5	128.1	122.1
1981	January	123.8	129.8	133.8	126.9
	February	132.1	138.2	141.0	135.3
	March	135.2	141.7	144.9	138.8
	April	134.4	141.2	145.1	138.1
	May	133.3	140.0	144.7	137.0
	June	132.4	139.1	144.6	136.2
	July	131.5	138.2	144.6	135.3
	August	131.0	137.6	144.4	134.8
	September ²	130.5	137.6	145.6	135.8
	October	129.9	137.1	145.7	135.3
	November	129.7	136.9	146.2	135.1

Geographic coverage: 1974 through 1977—56 urban areas; 1978 forward—85 urban areas.

¹See Explanatory Note 16.

²Beginning with September 1981, the Bureau of Labor Statistics changed the weights used in the calculation of average motor gasoline prices. In the average for all types category, gasohol is now included and unleaded premium is weighted more heavily.

NA=Not available.

Source: •Bureau of Labor Statistics.

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Price

Aviation Fuel

		Aviation Gasoline		Naphtha-Type ¹	Kerosene-Type		
		Wholesale ²	Retail ²	Retail ²	Wholesale ²	Retail ²	
Cents per gallon, excluding tax							
1976	AVERAGE	42.4	43.1	31.5	32.5	31.2	
1977	AVERAGE	46.7	47.7	35.0	36.7	35.8	
1978	AVERAGE	51.0	52.1	37.5	38.9	38.9	
1979	AVERAGE	68.5	69.5	52.3	66.5	55.1	
1980	January	90.6	90.0	76.0	83.4	77.0	
	February	98.5	97.8	80.1	86.2	83.0	
	March	102.9	107.0	84.1	86.6	86.3	
	April	104.8	109.6	83.2	88.4	87.4	
	May	106.2	109.7	89.1	89.0	87.6	
	June	107.7	111.4	90.0	86.1	88.6	
	July	109.3	113.4	91.4	88.3	89.7	
	August	110.2	112.9	90.6	86.2	90.7	
	September	110.8	113.3	92.9	86.4	88.8	
	October	110.8	113.0	91.1	87.6	88.7	
	November	112.4	113.0	92.5	89.9	91.0	
	December	115.1	117.2	94.1	91.4	91.6	
		AVERAGE	107.2	109.4	88.2	87.5	87.4
1981	January	118.9	121.6	99.2	97.1	95.7	
	February	121.3	128.1	102.7	103.6	101.6	
	March	127.2	131.1	106.9	104.8	106.3	
	April	117.5	131.3	109.0	103.8	106.4	
	May	120.7	133.5	109.1	104.4	106.2	
	June	116.5	132.1	107.6	102.3	104.8	
	July	120.1	133.4	106.3	100.5	103.8	
	August	120.0	132.5	105.7	101.4	103.3	
	September†	121.0	133.5	105.5	103.1	103.3	
		AVERAGE	119.6	131.0	106.0	102.4	103.4

Geographic coverage: the 50 United States and District of Columbia.

¹Nearly all naphtha-type fuels are sold directly to the Defense Fuel Supply Center. Consequently, wholesale prices are not applicable.

²Wholesale refers to the price of aviation fuel sold to other refiners and resellers, including bulk plants, branded and unbranded jobbers, and aviation fuel distributors. Retail refers to the price of aviation fuel sold to ultimate consumers, including commercial airline and military accounts.

†Preliminary data. R=Revised data.

Source: • FEA Form P302-M-1/EIA-460, "Petroleum Industry Monthly Report for Product Prices."

Price

National Average Heating Oil Prices¹

		Refiners' Average Selling Price to Resellers and Retailers	Average Purchase Price Paid by Distributors for Heating Oil ²	Average Distributor Margin on Residential Heating Oil ²	Average Selling Price to Residential Customers ²
Cents per gallon					
1976	AVERAGE	31.4	32.6	NA	40.6
1977	AVERAGE	35.7	36.9	NA	46.0
1978	AVERAGE	37.2	38.7	11.0	49.4
1979	AVERAGE	55.9	53.0	12.8	65.6
1980	January	75.0	75.2	16.2	90.8
	February	77.8	79.0	16.7	95.3
	March	78.8	80.4	17.1	97.1
	April	78.8	81.0	17.0	97.4
	May	79.3	81.4	16.3	97.2
	June	80.2	82.5	15.8	97.9
	July	79.2	83.0	15.3	97.9
	August	79.3	82.9	15.2	97.9
	September	79.3	83.0	15.4	98.1
	October	80.7	83.7	15.3	98.7
	November	84.0	86.1	13.8	101.1
	December	88.6	91.3	14.1	106.5
		AVERAGE	80.0	82.2	15.8
1981	January	94.9	98.6	15.1	114.4
	February	102.5	106.0	16.1	123.4
	March	102.8	106.3	17.6	125.5
	April	100.9	105.2	17.7	123.9
	May	100.7	104.0	17.6	122.7
	June	99.3	103.0	16.9	120.9
	July	98.5	102.7	17.1	121.0
	August	98.2	102.2	16.2	119.4
	September	R97.8	R101.6	R17.2	R119.7
	October†	98.0	101.1	16.6	118.8

Geographic coverage: the 50 United States and District of Columbia.

¹See Explanatory Note 17.

²Average selling prices, purchase prices, and dealer margins represent sales for residential heating oil only.

†Preliminary data. R=Revised data. NA=Not available.

Source: • 1976 through October 1980: FEA Form P112-M-1/EIA-9, "No. 2 Heating Oil Supply/Price Monitoring Report" and EIA-9A, "No. 2 Distillate Price Monitoring Report"; November 1980 forward: EIA-9A, "No. 2 Distillate Price Monitoring Report."

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Price

Residential Heating Oil Prices by Region

		DOE Region ¹									
		Cents per gallon									
		1	2	3	4	5	6	7	8	9	10
1979	January	55.1	54.5	53.3	51.6	51.5	(²)	49.6	50.4	47.6	50.8
	February	57.7	57.3	55.5	53.2	53.7	(²)	51.3	51.4	49.4	52.9
	March	60.6	59.8	57.5	54.3	56.3	(²)	54.7	55.3	50.8	55.3
	April	62.8	61.9	60.0	57.3	58.8	(²)	58.2	58.4	53.8	57.8
	May	65.9	64.8	63.4	61.2	62.8	(²)	62.0	62.7	56.2	60.8
	June	70.5	69.7	68.4	66.2	68.5	(²)	68.9	67.8	62.2	66.4
	July	75.9	73.9	72.9	70.9	73.2	(²)	72.0	72.5	68.4	72.3
	August	80.1	78.6	77.7	74.8	78.5	(²)	76.4	77.1	71.7	77.2
	September	83.3	81.4	80.0	79.4	81.5	(²)	79.5	80.1	76.8	81.4
	October	84.1	82.5	81.7	79.1	82.6	(²)	80.2	81.3	81.2	82.6
	November	85.1	83.7	82.4	80.5	83.9	(²)	82.2	84.0	80.4	82.3
	December	87.2	85.7	85.1	82.9	86.1	(²)	85.3	86.3	82.6	84.6
1980	January	91.8	91.0	90.2	88.6	90.4	(²)	90.0	90.2	89.6	91.0
	February	96.7	95.3	94.7	93.0	93.5	(²)	93.6	93.5	95.8	95.7
	March	98.7	97.2	96.5	94.8	94.3	(²)	95.1	95.9	93.9	97.6
	April	99.2	97.3	96.6	94.1	94.5	(²)	95.3	99.5	94.7	99.0
	May	98.7	97.3	96.4	94.2	95.8	(²)	95.2	97.7	95.5	98.6
	June	99.8	97.9	96.8	95.1	95.8	(²)	95.3	98.4	96.0	99.8
	July	100.3	98.1	96.6	94.2	96.2	(²)	93.1	97.0	96.7	100.2
	August	100.2	97.9	96.8	94.8	95.7	(²)	95.4	92.1	99.7	100.4
	September	100.5	98.2	97.0	94.7	95.7	(²)	93.7	93.0	97.2	100.6
	October	101.1	98.8	97.4	95.6	95.9	(²)	94.7	94.1	98.6	100.4
	November	102.5	103.0	99.9	101.5	98.8	(²)	95.2	98.5	101.0	103.1
	December	108.2	108.5	105.3	106.6	103.4	(²)	99.6	101.8	(²)	105.6
1981	January	116.2	117.1	113.2	114.0	110.4	(²)	106.3	108.6	(²)	107.5
	February	125.8	126.6	123.0	124.4	117.8	(²)	114.2	113.1	(²)	113.7
	March	127.6	128.4	125.0	125.3	119.3	(²)	115.4	119.3	111.5	116.5
	April	126.8	126.6	122.7	124.8	118.3	(²)	114.7	118.4	(²)	117.5
	May	125.5	125.6	122.1	118.8	117.3	(²)	114.5	115.1	114.1	115.6
	June	124.1	123.6	121.1	115.9	116.5	(²)	112.5	116.0	(²)	117.1
	July	123.3	122.9	120.6	120.2	116.0	(²)	115.9	116.2	(²)	118.3
	August	122.7	122.2	117.9	117.4	115.1	(²)	112.1	116.9	(²)	117.7
	September	R122.7	121.4	R118.5	R120.5	R116.2	(²)	R111.6	R116.8	(²)	R117.8
	October†	122.5	122.0	115.3	117.6	116.3	(²)	112.0	115.8	(²)	118.2

¹DOE Regions are defined in Explanatory Note 18.

²Not available for publication. Data for Region 6, and occasionally Region 9, are based on a sample of less than four reporting firms.

†Preliminary data. R=Revised data.

Source: • 1979 through October 1980: FEA Form P112-M-1/EIA-9, "No. 2 Heating Oil Supply/Price Monitoring Report"; November 1980 forward: EIA-9A, "No. 2 Distillate Price Monitoring Report".

Price

Average No. 6 Residual Fuel Oil Prices

		0.0 to 0.3 percent sulfur		0.31 to 1.0 percent sulfur		Greater than 1.0 percent sulfur		Average	
		Whole- sale	Retail	Whole- sale	Retail	Whole- sale	Retail	Whole- sale	Retail
Dollars per barrel, excluding taxes									
1976	AVERAGE	12.20	12.54	10.83	11.79	9.98	10.43	10.72	11.49
1977	AVERAGE	13.45	14.36	12.09	13.45	11.31	12.27	11.96	13.23
1978	AVERAGE	12.77	14.47	11.95	12.78	10.73	11.70	11.51	12.75
1979	AVERAGE	19.87	21.21	18.33	19.33	15.89	16.44	17.66	18.67
1980	January	29.11	30.35	26.15	28.12	21.56	21.98	24.41	26.21
	February	27.07	30.32	25.82	28.15	20.21	22.22	23.34	26.48
	March	26.88	30.20	23.73	27.29	17.81	20.34	21.11	25.33
	April	25.16	28.69	20.38	24.78	16.41	18.36	19.09	22.87
	May	25.48	31.73	22.72	25.77	17.72	18.04	20.22	23.75
	June	23.14	31.37	22.35	25.44	17.72	19.27	20.44	24.09
	July	24.89	28.51	23.44	25.55	19.20	20.58	21.28	23.86
	August	23.20	30.93	24.98	26.11	20.42	21.45	22.25	25.00
	September	24.27	33.12	23.46	26.31	20.62	21.71	22.47	25.31
	October	25.72	31.88	25.86	28.00	22.30	23.29	24.06	26.68
	November	29.52	33.70	29.40	30.89	27.08	27.50	28.12	30.10
	December	31.69	35.76	31.29	32.61	28.39	30.03	29.76	32.33
	AVERAGE	26.41	31.13	24.91	27.59	20.77	22.11	23.14	26.09
1981	January	34.27	37.23	32.12	33.96	29.12	31.35	31.14	33.65
	February	38.04	41.60	34.96	37.32	28.96	32.02	31.81	36.04
	March	37.78	41.19	34.47	38.01	29.55	31.95	31.78	36.11
	April	35.66	41.71	33.10	35.94	28.35	30.56	30.56	34.70
	May	33.61	41.09	32.53	35.94	28.77	30.64	30.41	34.11
	June	28.01	38.30	26.71	32.38	25.33	27.16	25.95	31.03
	July	29.56	39.02	27.38	31.93	25.62	25.96	26.52	30.57
	August	R30.48	R36.57	R27.77	R32.04	26.03	26.20	27.01	30.52
	September†	29.94	39.17	27.45	31.46	24.74	26.24	26.19	30.02
	AVERAGE	33.76	39.45	31.16	34.21	27.56	29.27	29.37	33.08

Geographic coverage: the 50 United States and District of Columbia.

†Preliminary data. R=Revised data.

Note: Wholesale refers to the price of residual fuel sold to other refiners and resellers, including bulk plants, branded and unbranded jobbers, and other residual dealers. Retail refers to the price at which residual fuel oil is sold to ultimate consumers such as utility, industrial, commercial, and residential accounts.

Source: • FEA Form P302-M-1/EIA-460, "Petroleum Industry Monthly Report for Product Prices."

Price

Natural Gas

		Average Wellhead Value	Delivered to Electric Plant ¹	Average Residential Heating
		Cents per thousand cubic feet		
1973	AVERAGE	21.6	35.0	108.2
1974	AVERAGE	30.4	49.0	125.3
1975	AVERAGE	44.5	76.9	154.2
1976	AVERAGE	58.0	105.9	184.6
1977	AVERAGE	79.0	133.4	226.4
1978	AVERAGE	90.5	147.9	262.6
1979	AVERAGE	117.8	180.3	323.1
1980	January	134.4	201.1	354.9
	February	139.5	210.5	357.9
	March	141.3	214.7	368.1
	April	143.4	210.4	367.8
	May	145.2	218.1	393.9
	June	145.8	216.4	394.8
	July	152.8	237.3	410.6
	August	152.8	245.6	413.1
	September	157.4	245.6	417.0
	October	159.4	253.4	420.6
	November	163.3	238.4	396.1
	December	162.2	232.7	403.3
		AVERAGE	149.6	212.8
1981	January	167.6	258.8	406.9
	February	171.3	268.9	409.3
	March	172.1	273.0	417.4
	April	173.8	282.5	421.7
	May	R177.3	293.2	457.1
	June	R182.9	296.7	457.6
	July	R184.5	298.2	460.4
	August	R184.4	299.9	466.6
	September	191.2	297.4	486.3

Geographic coverage: the 50 United States and District of Columbia.

¹Includes all electric utility generating plants with a combined capacity for 25 megawatts or greater. Small quantities of coke oven gas, refinery gas, and blast furnace gas are included.

R=Revised data.

Sources: • Annual data for wellhead values are from the appropriate agencies of the individual producing States and the U.S. Geological Survey; monthly data are estimated primarily on the basis of values reported by State agencies in New Mexico, Oklahoma, and Texas.

• Electric plant data—FPC Form 423, "Monthly Report of Cost and Quality of Fuels for Electric Plants."

• Average residential heating prices—Bureau of Labor Statistics.

Price

Electricity

		Cost of Fossil Fuels Delivered to Steam-Electric Utility Plants				Average Retail Electricity Prices ¹				
		Coal	Residual Oil ²	Natural Gas ³	All Fossil Fuels ²	Residential	Commercial	Industrial	Other	Total ⁴
		Cents per million Btu				Cents per kilowatt-hour				
1973	AVERAGE	40.5	78.8	33.8	47.5	2.54	2.41	1.25	2.10	1.96
1974	AVERAGE	71.0	191.0	48.1	90.9	3.10	3.04	1.69	2.75	2.49
1975	AVERAGE	81.4	201.4	75.4	103.0	3.51	3.45	2.07	3.08	2.92
1976	AVERAGE	84.8	195.9	103.4	110.4	3.73	3.69	2.21	3.27	3.09
1977	AVERAGE	94.7	220.4	130.0	127.7	4.05	4.09	2.50	3.51	3.42
1978	AVERAGE	111.6	212.3	143.8	139.3	4.31	4.36	2.79	3.62	3.69
1979	AVERAGE	122.4	299.7	175.4	162.1	4.64	4.68	3.05	3.96	3.99
1980	January	128.7	423.5	194.8	187.3	4.69	4.90	3.32	4.19	4.21
	February	129.9	429.7	203.9	189.8	4.74	4.97	3.32	4.63	4.25
	March	130.1	411.0	207.9	184.8	4.92	5.17	3.45	4.69	4.40
	April	133.8	394.9	204.0	178.2	5.14	5.28	3.49	4.71	4.48
	May	133.3	403.1	212.0	180.3	5.41	5.44	3.59	4.97	4.63
	June	135.1	392.7	209.3	178.8	5.60	5.61	3.79	4.58	4.85
	July	137.4	394.5	228.5	199.0	5.66	5.65	3.93	4.93	5.03
	August	139.5	404.9	237.2	196.2	5.72	5.64	3.94	4.81	5.07
	September	138.9	411.3	238.7	193.5	5.69	5.73	3.89	4.95	5.03
	October	138.1	452.2	245.7	192.2	5.68	5.84	3.84	4.88	4.95
	November	139.3	496.0	231.3	200.0	5.61	5.71	3.85	5.06	4.89
	December	137.8	521.9	226.3	206.6	5.49	5.69	3.88	4.82	4.90
		AVERAGE	135.2	427.9	212.9	189.3	5.36	5.48	3.69	4.76
1981	January	142.3	540.2	254.1	221.3	5.44	5.73	3.94	4.92	4.96
	February	146.3	572.9	260.5	218.4	5.52	5.83	3.95	5.01	4.99
	March	148.4	583.9	263.8	215.2	5.76	6.01	4.04	5.33	5.12
	April	146.9	568.4	273.5	242.1	5.99	6.14	4.07	5.20	5.20
	May	146.7	552.8	282.7	250.8	6.27	6.30	4.17	5.49	5.37
	June	152.8	503.2	286.3	236.2	6.48	6.48	4.36	5.38	5.59
	July	156.5	502.4	288.6	227.5	6.58	6.47	4.48	5.60	5.76
	August	157.0	494.4	291.0	220.3	6.62	6.49	4.49	5.52	5.78
	September	157.3	506.7	287.6	213.2	6.63	6.48	4.49	5.65	5.74
	October	NA	NA	NA	NA	6.57	6.52	4.40	5.31	5.64

Geographic coverage: Fossil Fuels—the lower 48 States and District of Columbia. Electricity—the 50 United States and District of Columbia.

¹Prices are for selected Classes A and B privately-owned electric utilities.

²See Explanatory Note 19.

³Includes small quantities of coke oven gas, refinery gas and blast furnace gas.

⁴Average price for total sales to ultimate consumers.

NA = Not available.

Sources: • Cost of fossil fuels—FPC Form 423, "Monthly Report of Cost and Quality of Fuels for Electric Plants."

• Retail price—January 1973 thru February 1980: FPC Form 5, "Monthly Statement of Electric Operating Revenue and Income"; March 1980 forward: Federal Energy Regulatory Commission, Form 5, "Electric Utility Company Monthly Statement."

International

Crude Oil Production

World crude oil production during September 1981 was 53.6 million barrels per day, down 0.2 million barrels per day (0.3 percent) from the August 1981 level.

Organization of Petroleum Exporting Countries (OPEC) output during September 1981 averaged 20.4 million barrels per day, a decrease of 0.7 million barrels per day from the previous month. Average production by Arab members of OPEC was 14.2 million barrels per day, down 1.1 million barrels per day from the August 1981 level. The decrease in OPEC production was almost entirely attributed to a decline in production of 1.2 million barrels per day in Saudi Arabia. In September 1981, Nigeria increased production by 0.4 million barrels per day to an average of 1.1 million barrels per day.

Production by non-OPEC nations increased an average of 0.5 million barrels per day in September 1981. In Mexico, production increased by 0.2 million barrels per day to an average of 2.5 million barrels per day. Production in other major producing countries rose slightly or remained about the same.

Petroleum Consumption

Preliminary petroleum consumption data for September 1981 were available for France, Italy, the United Kingdom, and the United States. The consumption levels for all of these countries decreased from or equaled the consumption levels in September 1980.

Petroleum consumption by International Energy Agency (IEA) member nations was 32.0 million barrels per day during June 1981 (latest data available). This preliminary figure was an increase of an average of 0.9 million barrels per day from the average rate of 31.1 million barrels per day in June 1980. The decrease for the United States for the same period was 0.2 million barrels per day.

Petroleum Stocks

Preliminary data on petroleum stocks for August 1981 were available for Canada,

France, the United Kingdom, and the United States. Petroleum stocks for the United States were up from the level at the end of August 1980 by 0.6 percent. In contrast, stocks for Canada, France, and the United Kingdom were down 3.8, 12.4, and 15.9 percent, respectively, during the same interval.

Petroleum stocks of all Organization for Economic Cooperation and Development (OECD) members stood at 3,552 million barrels at the end of June 1981 (latest data available), an increase of 52 million barrels (1.5 percent) from stocks held at the end of June 1980. The United States held 1,438 million barrels of these stocks (40.5 percent).

Nuclear Electricity Production

In October 1981, the non-Communist world generated 55.8 billion gross kilowatt-hours of nuclear-based electricity, a decline of 5.6 percent from the September 1981 level but 5.5 percent above October 1980 generation. U.S. nuclear electricity production in October 1981 was 21.6 billion gross kilowatt-hours, about 38.8 percent of the non-Communist commercial nuclear generation for that month.

The commercial operation of two reactors, the United States' Salem-2 and Electricite de France's Gravelines-B4, was announced in October. Since these two units had been included in prior tabulations, the number of operational, non-Communist units remained at the September level of 221. The combined gross generating capacity of these 221 power reactors was 144.2 million kilowatts (GWe) of which 60.8 GWe—42.2 percent—was associated with the 75 operational U.S. units.

An accidental discharge of about 7 curies of iodine-131 occurred at the British Nuclear Fuels, Ltd., reprocessing plant in Windscale, U.K., during the first week in October. This atmospheric release appeared to have represented no health hazard. It resulted from the reprocessing of several fuel rods for which insufficient "cooling" time had been allowed for the decay of the 8-day half-life isotope.

International

Crude Oil Production for Major Petroleum Producing Countries

		Algeria	Iraq	Kuwait ¹	Libya	Qatar	Saudi Arabia ¹	United Arab Emirates	Arab Members of OPEC ²	Indonesia	Iran
Thousand barrels per day											
1973	AVERAGE	1,097	2,018	3,020	2,175	570	7,596	1,533	18,009	1,339	5,861
1974	AVERAGE	1,009	1,971	2,546	1,521	518	8,480	1,679	17,724	1,375	6,022
1975	AVERAGE	983	2,262	2,084	1,480	438	7,075	1,664	15,986	1,307	5,350
1976	AVERAGE	1,075	2,415	2,145	1,933	497	8,577	1,936	18,578	1,504	5,883
1977	AVERAGE	1,152	2,348	1,969	2,063	445	9,245	1,999	19,221	1,686	5,663
1978	AVERAGE	1,161	2,563	2,131	1,983	487	8,301	1,831	18,457	1,635	5,242
1979	AVERAGE	1,154	3,477	2,500	2,092	508	9,532	1,831	21,094	1,591	3,168
1980	January	1,150	3,400	2,140	2,100	495	9,785	1,740	20,810	1,565	2,295
	February	1,150	3,400	2,335	2,100	460	9,780	1,740	20,965	1,550	2,500
	March	1,150	3,400	2,090	2,000	500	9,790	1,695	20,625	1,575	2,350
	April	1,000	3,300	1,570	1,750	500	9,765	1,705	19,590	1,580	2,200
	May	1,000	3,300	1,525	1,750	480	9,775	1,765	19,595	1,550	1,700
	June	1,000	3,300	1,575	1,700	440	9,775	1,750	19,540	1,545	1,500
	July	1,000	3,100	1,365	1,680	460	9,765	1,710	19,080	1,565	1,700
	August	1,000	3,100	1,465	1,690	465	9,765	1,665	19,150	1,565	1,600
	September	1,000	3,000	1,290	1,680	460	9,740	1,670	18,840	1,565	1,400
	October	1,000	150	1,385	1,665	440	10,255	1,675	16,540	1,585	600
	November	1,000	350	1,505	1,680	475	10,265	1,695	16,930	1,630	800
	December	1,000	450	1,779	1,680	483	10,260	1,706	17,360	1,617	1,360
		AVERAGE	1,012	2,514	1,656	1,787	472	9,900	1,709	19,050	1,577
1981	January	950	600	1,765	1,600	505	10,265	1,620	17,305	1,630	1,600
	February	950	700	1,565	1,650	480	10,265	1,605	17,215	1,620	1,700
	March	950	1,000	1,560	1,600	505	10,110	1,610	17,335	1,635	1,700
	April	900	1,000	995	1,600	515	10,195	1,570	16,775	1,630	1,600
	May	900	1,000	990	1,400	435	10,140	1,550	16,415	1,600	1,500
	June	800	1,000	1,080	1,200	340	10,180	1,435	16,035	1,600	1,600
	July	725	1,100	1,200	750	380	10,170	1,415	15,740	1,600	1,400
	August	600	1,100	830	700	295	10,330	1,480	15,335	1,600	1,100
	September	550	1,100	855	700	365	9,155	1,465	14,190	1,600	1,100

U.S. geographic coverage: the 50 United States and District of Columbia.

Monthly data may not average to annual data due to independent rounding. Data for 1981 are preliminary.

¹Includes about one-half of the production in the former Kuwait-Saudi Arabia Neutral Zone. In September 1981 total production in this region amounted to approximately 311,000 barrels per day.

²Arab members of the Organization of Petroleum Exporting Countries (OPEC) include Algeria, Iraq, Kuwait, Libya, Qatar, Saudi Arabia, and the United Arab Emirates.

Additional footnotes on following page.

International

Crude Oil Production for Major Petroleum Producing Countries (continued)

		Nigeria	Vene- zuela	Total OPEC ^a	Canada	Mexico	United Kingdom	United States	China	USSR	Other ^c	World
Thousand barrels per day												
1973	AVERAGE	2,054	3,366	30,989	1,800	465	2	9,208	1,090	8,465	3,729	55,748
1974	AVERAGE	2,255	2,976	30,729	1,684	571	2	8,774	1,315	9,000	3,835	55,910
1975	AVERAGE	1,783	2,346	27,155	1,439	705	12	8,375	1,490	9,625	4,151	52,952
1976	AVERAGE	2,067	2,294	30,738	1,295	831	245	8,132	1,670	10,143	4,351	57,405
1977	AVERAGE	2,085	2,238	31,278	1,320	981	768	8,245	1,874	10,682	4,647	59,795
1978	AVERAGE	1,897	2,166	29,805	1,313	1,209	1,082	8,707	2,082	11,185	4,782	60,165
1979	AVERAGE	2,302	2,356	30,928	1,496	1,461	1,568	8,552	2,122	11,460	5,111	62,698
1980	January	2,155	2,280	29,535	1,515	1,720	1,600	8,648	2,111	11,615	5,087	61,831
	February	2,160	2,200	29,805	1,475	1,725	1,660	8,696	2,127	11,590	5,052	62,130
	March	2,155	1,995	29,100	1,475	1,830	1,670	8,712	2,119	11,615	5,006	61,527
	April	2,100	2,045	27,965	1,390	1,885	1,510	8,688	2,121	11,680	5,242	60,481
	May	2,200	2,150	27,645	1,470	1,910	1,600	8,640	2,133	11,750	4,898	60,046
	June	2,110	2,050	27,175	1,535	1,905	1,625	8,547	2,132	11,660	5,124	59,703
	July	2,095	2,170	27,030	1,520	2,015	1,585	8,555	2,124	11,825	4,857	59,511
	August	2,050	2,210	27,010	1,440	2,000	1,535	8,422	2,143	11,875	5,057	59,482
	September	1,600	2,190	25,955	1,420	2,125	1,540	8,619	2,110	11,950	4,963	58,682
	October	1,879	2,225	23,255	1,311	2,182	1,572	8,536	2,076	11,875	5,227	56,034
	November	2,062	2,230	24,065	1,467	1,901	1,731	8,499	2,088	11,930	5,097	56,778
	December	2,026	2,330	25,050	1,300	2,027	1,795	8,609	2,083	11,850	5,304	58,018
	AVERAGE	2,055	2,167	26,890	1,424	1,937	1,622	8,597	2,114	11,770	5,098	59,452
1981	January	1,900	2,220	25,025	1,260	2,220	1,765	8,533	2,024	11,900	5,248	57,975
	February	1,960	2,195	25,075	1,300	2,120	1,820	8,598	2,025	11,900	5,257	58,095
	March	1,875	2,240	25,190	1,200	2,365	1,885	8,601	2,025	11,900	5,244	58,410
	April	1,625	2,200	24,215	1,190	2,540	1,750	8,543	2,011	11,800	5,376	57,325
	May	1,295	2,200	23,380	1,195	2,545	1,770	8,496	2,025	11,800	5,424	56,635
	June	1,350	1,990	22,945	1,130	2,300	1,765	R8,616	2,025	11,800	R5,284	55,865
	July	770	1,760	21,620	R1,270	2,095	1,750	R8,422	R2,010	11,800	R5,393	R54,360
	August	710	1,960	21,050	R1,235	2,260	1,760	R8,576	R2,020	11,800	R5,069	R53,770
	September	1,065	2,080	20,385	1,265	2,480	1,830	8,620	1,990	11,800	5,250	53,620

^aOPEC total includes production in Algeria, Iraq, Kuwait, Libya, Qatar, Saudi Arabia, United Arab Emirates, Indonesia, Iran, Nigeria, Venezuela, Ecuador, and Gabon.

^cOther is a calculated total derived from the difference between world production and the nations represented above.

R=Revised data.

Sources: • 1973-1980 annual data: Energy Information Administration, *1980 International Energy Annual*.

• 1973-1981 United States data: See sources at the end of the Petroleum Section.

• 1980 and 1981 monthly data (except U.S. and World total): Central Intelligence Agency, *International Energy Statistical Review*.

• 1981 monthly data for World: Sum of data for all countries using above sources.

International

Petroleum Consumption for Major Non-Communist Industrialized Countries¹

		Canada	France ²	Italy	Japan	United Kingdom	United States	West Germany	Other IEA ³	Total IEA ⁴
Thousand barrels per day										
1973	AVERAGE	1,597	2,219	1,525	5,000	1,958	17,308	2,693	4,069	34,150
1974	AVERAGE	1,630	2,094	1,521	4,872	1,829	16,653	2,408	4,047	32,960
1975	AVERAGE	1,595	1,925	1,468	4,568	1,633	16,322	2,319	3,905	31,810
1976	AVERAGE	1,647	2,075	1,503	4,786	1,601	17,461	2,507	4,265	33,770
1977	AVERAGE	1,661	1,973	1,476	5,015	1,655	18,431	2,478	4,214	34,930
1978	AVERAGE	1,701	2,077	1,551	5,115	1,683	18,847	2,596	4,387	35,880
1979	AVERAGE	1,766	2,107	1,607	5,173	1,690	18,513	2,664	4,487	35,900
1980	January	1,820	2,465	1,778	5,255	1,769	18,656	2,690	4,532	36,500
	February	1,930	2,444	1,864	5,722	1,621	18,815	2,410	4,738	37,100
	March	1,720	1,982	1,657	5,433	1,585	17,385	2,430	4,390	34,600
	April	1,600	2,110	1,541	4,626	1,472	16,724	2,680	4,257	32,900
	May	1,590	1,853	1,448	4,376	1,348	16,143	2,230	3,965	31,100
	June	1,660	1,848	1,511	4,224	1,286	16,214	2,220	3,985	31,100
	July	1,680	1,450	1,537	4,250	1,217	15,962	2,420	4,034	31,100
	August	1,650	1,220	1,310	3,910	1,120	15,727	2,150	3,833	29,700
	September	1,710	1,740	1,650	4,120	1,270	16,548	2,540	4,162	32,000
	October	1,770	2,050	1,670	4,250	1,430	16,911	2,230	3,939	32,200
	November	1,720	2,040	1,530	4,550	1,440	16,694	2,110	3,956	32,000
	December	1,940	2,410	1,740	5,350	1,480	18,354	2,190	4,446	35,500
	AVERAGE	1,730	1,965	1,602	4,680	1,420	17,006	2,360	4,202	33,000
1981	January	1,760	2,310	1,710	4,980	1,400	18,288	2,230	4,632	35,000
	February	1,770	2,170	2,010	5,350	1,460	16,930	2,510	4,270	34,300
	March	1,550	1,790	1,700	5,020	1,430	15,838	2,100	3,762	31,400
	April	1,600	1,500	1,620	4,140	1,290	15,280	1,810	4,060	31,300
	May	1,490	1,670	1,290	3,600	1,190	15,196	1,880	4,084	30,400
	June	1,570	1,600	R1,340	3,915	1,210	R15,996	2,155	R4,214	32,000
	July	NA	1,450	1,435	4,235	R1,170	R15,713	NA	NA	NA
	August	NA	1,160	1,210	3,840	1,125	R15,236	NA	NA	NA
	September	NA	1,420	1,465	NA	1,270	15,397	NA	NA	NA

U.S. geographic coverage: the 50 United States and District of Columbia.

¹These data represent inland consumption, i.e., sales of petroleum products excluding refinery fuel, refinery losses, and ocean bunkers except for the United States, where it represents domestic products supplied.

²Not a member of the International Energy Agency (IEA).

³Other is a calculated total derived from the difference between total IEA consumption and the IEA nations represented above.

⁴The 21 signatory nations of the IEA are: Australia, Austria, Belgium, Canada, Denmark, West Germany, Greece, Ireland, Italy, Japan, Luxembourg, Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, Turkey, United Kingdom, and United States. Australia and Portugal joined the IEA as new members in 1979 and 1980, respectively. In an effort to maintain comparability within this time series, consumption data for these two countries have been incorporated into the IEA total for all years.

NA = Not available. R = Revised data.

Note: Data for 1980 and 1981 are preliminary.

Sources: • Central Intelligence Agency, 'International Energy Statistical Review,' 22 December 1981 (except United States).

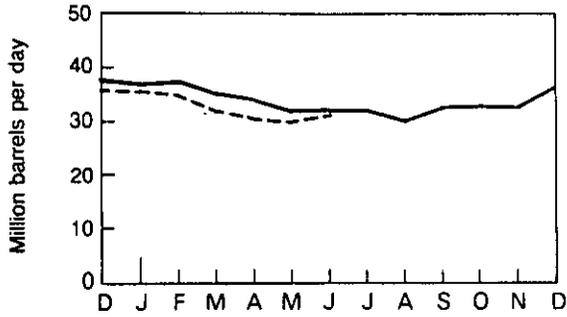
• 1973-1981 United States data: See sources at the end of the Petroleum Section.

• IEA totals for latest months are Energy Information Administration estimates.

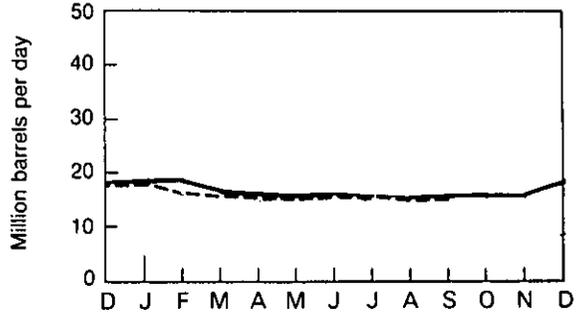
International

Petroleum Consumption

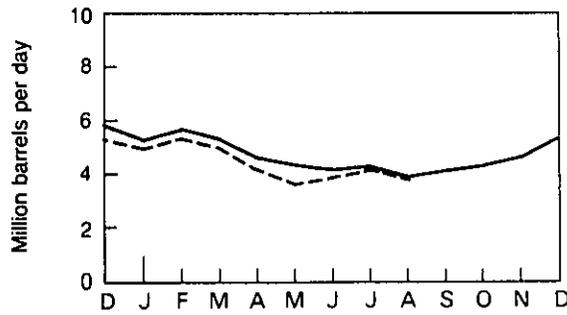
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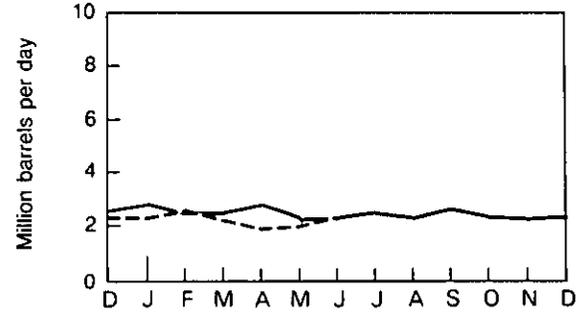
United States



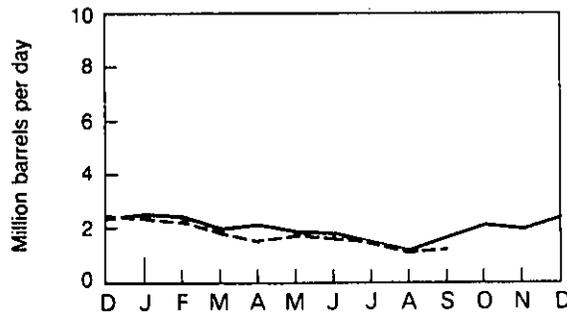
Japan*



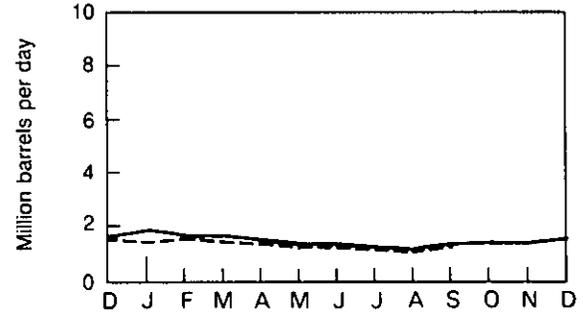
West Germany



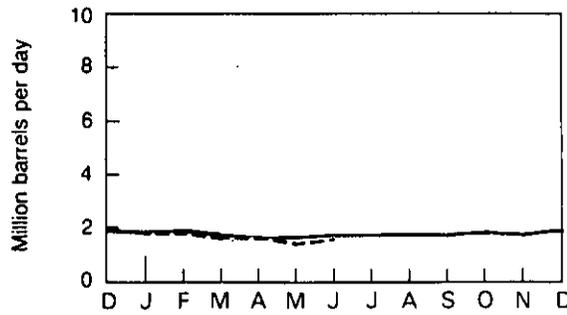
France**



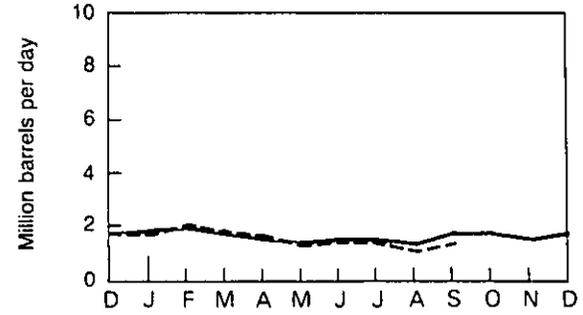
United Kingdom



Canada



Italy***



*Excludes liquefied petroleum gases and condensates.

**Not a member of IEA.

***Principal products only.

— 1980
- - - 1981

International

Petroleum Stocks for Major Non-Communist Industrialized Countries at End of Period¹

	Canada	France	Italy	Japan	United Kingdom	United States	West Germany	Other OECD ²	Total OECD ³	
	Million barrels									
1973	149	203	NA	303	156	1,008	NA	NA	NA	
1974	164	240	169	370	191	1,074	215	NA	NA	
1975	167	239	143	375	164	1,133	190	NA	NA	
1976	156	231	142	394	165	1,112	214	NA	NA	
1977	170	241	162	399	147	1,312	236	485	3,152	
1978	148	214	153	422	147	1,278	239	487	3,089	
1979	156	231	163	457	163	1,341	273	574	3,358	
1980	January	156	228	164	445	164	1,348	282	NA	NA
	February	153	225	153	419	162	1,339	305	NA	NA
	March	156	233	152	427	163	1,342	299	535	3,307
	April	161	220	155	442	160	1,366	287	NA	NA
	May	168	233	164	463	167	1,387	300	NA	NA
	June	171	239	165	471	174	1,410	313	557	3,500
	July	178	247	176	494	172	1,425	308	NA	NA
	August	184	266	186	508	176	1,449	315	NA	NA
	September	183	264	192	508	173	1,447	306	617	3,690
	October	178	271	186	497	169	1,430	307	NA	NA
	November	172	260	179	488	170	1,434	313	NA	NA
	December	171	254	173	481	169	1,395	323	587	3,553
1981	January	169	234	155	479	168	1,391	319	NA	NA
	February	162	235	184	457	170	R1,398	312	NA	NA
	March	165	227	158	452	164	R1,405	318	525	R3,414
	April	174	235	169	484	165	R1,423	322	NA	NA
	May	R176	229	173	496	162	R1,447	321	NA	NA
	June	R179	225	171	484	158	R1,438	312	585	R3,552
	July	R174	228	NA	NA	153	R1,444	NA	NA	NA
	August	177	233	NA	NA	148	1,458	NA	NA	NA

U. S. geographic coverage: the 50 United States and District of Columbia. Totals may not equal sum of components due to independent rounding.

¹Petroleum stocks include crude oil (including strategic reserves), unfinished oils, natural gas plant liquids, and refined products. Petroleum stocks include all non-military petroleum held for storage regardless of ownership, within each particular country in the following facilities: bulk terminals, refinery tanks, pipeline tankage, intercoastal tankers, tankers in port, and inland ship bunkers. These data exclude oil held in pipelines (except for the United States), in rail and truck cars, in sea-going ships' bunkers, in service stations, retail stores, and in tankers at sea.

²"Other OECD" includes Organization of Economic Cooperation and Development (OECD) members not shown.

³The members of OECD are Australia, Austria, Belgium, Canada, Denmark, Finland, France, West Germany, Greece, Iceland, Ireland, Italy, Japan, Luxembourg, the Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, Turkey, the United Kingdom, and the United States. Total OECD excludes United States Territories.

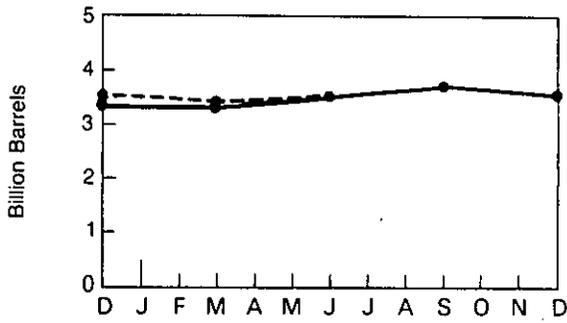
R = Revised data. NA = Not available.

Sources: • Canada: Energy, Mines and Resources Canada, *Energy Information Handbook*; Statistics Canada, *Refined Petroleum Products*. • France: Comité Professionnel du Pétrole, *Pétrole 80: Activité de L'Industrie Pétrolière* and *Bulletin Mensuel*. • West Germany and Italy: OECD, *Quarterly Oil Statistics* and *Monthly Oil Statistics*. • Japan: Ministry of International Trade and Industry, *Yearbook of Coal, Petroleum, and Coke Statistics 1979*; *Energy Production: Supply and Demand Statistics Report*. • United Kingdom: United Kingdom Department of Energy, *Digest of United Kingdom Energy Statistics 1981* and *Energy Trends*; and OECD, *Monthly Oil Statistics*. • United States: 1973 through 1979: Energy Information Administration (EIA), *Energy Data Reports*, "Petroleum Statement, Annual"; January 1980 through August 1981: EIA, "Petroleum Statement, Monthly". • Other OECD: OECD, *Quarterly Oil Statistics*. • Total OECD: Sum of data for all OECD member countries using above sources.

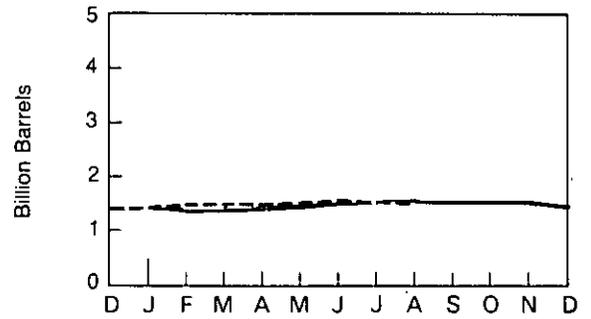
International

Petroleum Stocks

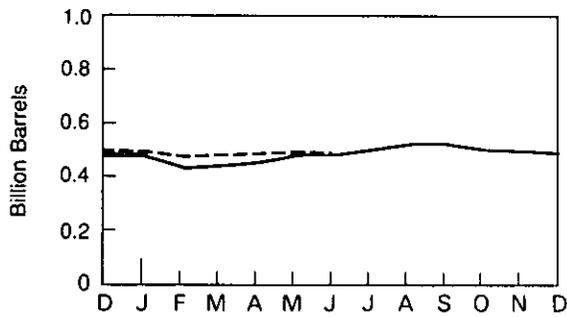
Total OECD



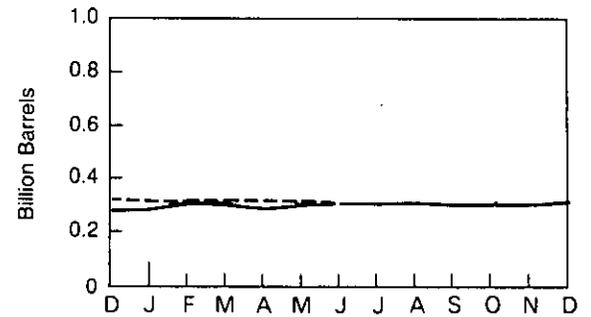
United States



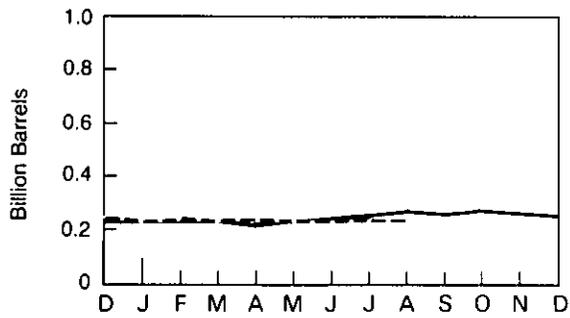
Japan



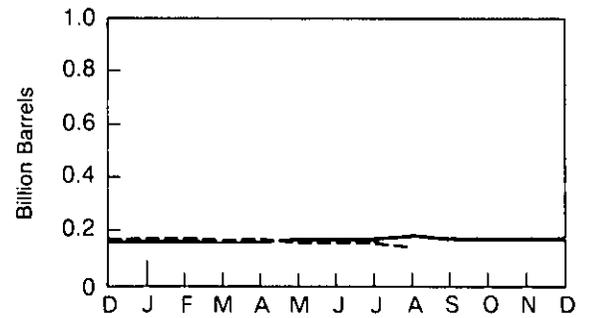
West Germany



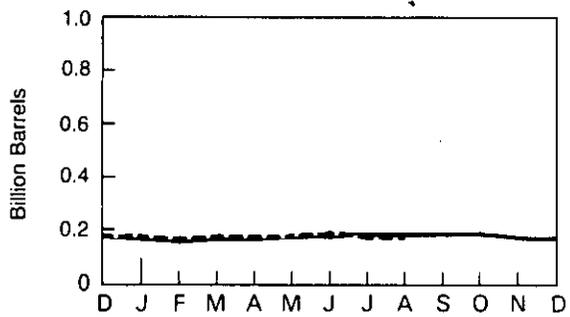
France



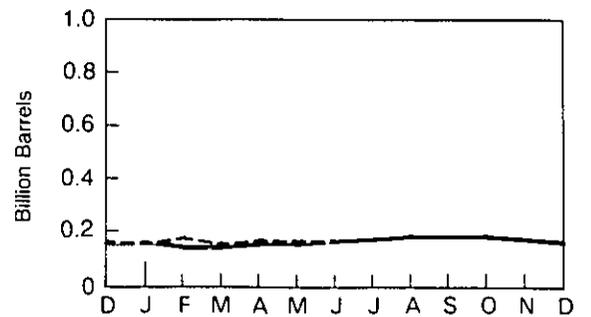
United Kingdom



Canada



Italy



— 1980
- - - 1981

International

Nuclear Electricity Generation by Non-Communist Countries¹

		Argentina	Belgium	Canada	Finland	France	India	Italy	Japan	Nether-lands	Pakistan
		Billion gross kilowatt-hours									
1973	TOTAL	0	0	18.3	0	11.6	1.9	3.1	9.4	1.1	0.5
1974	TOTAL	1.0	0.1	15.4	0	14.7	2.4	3.4	18.1	3.3	0.6
1975	TOTAL	2.5	6.8	13.2	0	18.3	2.5	3.8	22.2	3.3	0.5
1976	TOTAL	2.6	10.0	18.0	0	15.8	3.2	3.8	36.8	3.9	0.5
1977	TOTAL	1.6	11.9	26.8	2.7	17.9	2.8	3.4	28.1	3.7	0.3
1978	TOTAL	2.9	12.5	32.9	3.3	30.5	2.3	4.4	53.2	4.1	0.2
1979	TOTAL	2.7	11.4	38.4	6.7	39.9	3.2	2.6	62.0	3.5	(s)
1980	January	0.3	1.2	3.6	0.8	5.5	0.2	0.2	8.0	0.4	0
	February	0.1	1.0	3.5	0.8	5.3	0.1	0.4	7.4	0.4	0
	March	0	1.0	3.7	0.8	5.1	0.2	0.5	8.0	0.4	0
	April	0.1	0.5	3.2	0.8	5.0	0.3	0.4	5.6	0.3	0
	May	0.2	0.7	2.5	0.3	4.2	0.3	0.3	6.0	0.3	0
	June	0.2	1.1	3.1	0	4.1	0.2	0.1	6.7	0.3	0
	July	0.2	1.3	3.6	0.4	4.8	0.2	0.1	7.8	0.4	(s)
	August	0.3	1.3	3.9	0.4	3.2	0.3	0.1	8.6	0.4	(s)
	September	0.3	1.1	3.1	0.4	4.5	0.3	0.1	7.0	0.4	(s)
	October	0.3	0.9	3.3	0.5	5.1	0.2	0	6.0	0.3	0
	November	0.3	1.1	3.4	0.6	5.8	0.3	0	5.4	0.3	(s)
	December	0.3	1.2	3.5	1.2	8.5	0.2	0	6.3	0.3	(s)
	TOTAL	2.3	12.5	40.4	7.0	61.2	2.9	2.2	82.8	4.2	0.1
1981	January	0.3	1.2	3.2	1.3	9.3	0.2	0.2	8.2	0.1	(s)
	February	0.2	1.0	3.5	0.9	8.6	0.2	0.3	7.1	(s)	(s)
	March	0.3	0.6	3.9	1.4	8.8	0.3	0.1	7.8	0.3	0
	April	0.2	0.7	3.3	1.5	8.3	0.3	0.6	7.9	0.4	0
	May	0.2	1.2	3.4	1.0	8.9	0.4	0.3	8.0	0.4	(s)
	June	0.2	1.2	3.6	0.7	8.3	0.3	0.1	6.7	0.4	(s)
	July	0.3	1.3	4.0	0.8	8.4	0.3	0.3	8.3	0.4	(s)
	August	0.2	1.2	4.0	1.4	7.7	0.2	0.1	8.1	0.4	(s)
	September	0.3	0.9	3.3	1.5	8.5	0.2	0.1	5.9	0.4	(s)
	October	0.2	1.0	3.4	1.4	8.1	0.2	0.1	5.1	0.4	(s)
	TOTAL (Year-to-date)	2.3	10.3	35.7	12.0	84.9	2.5	2.2	73.1	3.0	0.2

Totals may not equal sum of components due to independent rounding.

¹Figures are for gross electricity generation as opposed to net electricity generation. Net figures are generally less than gross figures by about 5 percent, which represents the energy consumed by the generating plants themselves.

(s) = Less than 0.05 billion gross kilowatt-hours.

Source: • *Nucleonics Week*.

International

Nuclear Electricity Generation by Non-Communist Countries¹ (continued)

		South Korea	Spain	Sweden	Switzer- land	Taiwan	United Kingdom ²	West Germany	Non- Communist World Excluding U.S.	United States	Total Non- Communist World
Billion gross kilowatt-hours											
1973	TOTAL	0	6.5	2.1	6.2	0	28.0	11.9	100.7	88.0	188.7
1974	TOTAL	0	7.2	1.6	7.0	0	34.0	12.0	121.1	104.5	225.6
1975	TOTAL	0	7.5	12.0	7.7	0	30.5	21.7	152.7	181.8	334.5
1976	TOTAL	0	7.6	16.0	7.9	0	36.8	24.5	187.3	201.6	388.9
1977	TOTAL	0.1	6.5	19.9	8.1	0.1	38.1	35.8	207.8	263.2	470.9
1978	TOTAL	2.3	7.6	23.8	8.3	2.7	36.7	35.9	263.6	292.7	556.3
1979	TOTAL	3.2	6.7	21.0	11.8	6.3	38.5	42.2	300.1	270.7	570.8
1980	January	0.1	0.7	2.5	1.5	0.9	3.7	4.7	34.2	21.1	55.3
	February	(s)	0.3	2.4	1.2	0.7	3.4	4.2	31.3	21.0	52.2
	March	0.4	0.4	2.3	1.3	0.8	4.2	3.4	32.4	21.0	53.4
	April	0.4	0.4	1.9	1.4	0.7	2.7	3.6	27.3	19.8	47.1
	May	0.4	0.4	1.6	1.4	0.4	2.6	3.5	25.1	19.6	44.7
	June	0.1	0.3	1.6	0.6	0.5	2.8	2.9	24.7	19.4	44.1
	July	0.4	0.3	1.3	0.6	0.8	2.0	3.0	27.2	22.4	49.6
	August	0.3	0.4	1.3	0.7	0.8	2.6	2.7	27.2	25.7	52.9
	September	0.4	0.4	2.1	1.3	0.8	3.1	3.2	28.4	24.8	53.2
	October	0.4	0.4	2.7	1.4	0.8	2.7	3.1	28.2	25.7	53.9
	November	0.4	0.5	3.4	1.4	0.6	3.2	4.1	30.8	22.0	52.8
	December	0.3	0.7	3.6	1.5	0.5	4.2	5.3	37.5	23.1	60.7
		TOTAL	3.5	5.2	26.7	14.3	8.2	37.2	43.7	354.4	R265.5
1981	January	0.3	0.8	3.5	1.5	0.8	3.8	5.0	39.7	25.7	65.4
	February	0	0.6	3.6	1.4	0.7	3.4	4.6	36.2	22.6	58.8
	March	0	0.7	3.7	1.5	0.8	4.2	4.9	39.1	23.1	62.2
	April	0	0.6	3.3	1.4	0.8	2.8	4.4	36.5	21.7	58.2
	May	0.2	0.8	2.8	1.4	0.8	2.5	4.3	36.6	20.9	57.4
	June	0.4	0.8	2.8	0.7	0.8	3.3	4.1	34.5	R22.6	R57.1
	July	0.4	1.1	1.4	0.6	0.8	2.5	5.2	36.1	R24.8	R60.9
	August	0.4	1.0	2.6	1.0	0.8	2.5	3.9	35.6	R27.9	63.4
	September	0.3	0.6	3.0	1.3	0.8	3.1	3.2	33.4	R25.7	R59.1
	October	0.3	1.2	3.3	1.5	1.2	2.7	4.0	34.2	21.6	55.8
		TOTAL (Year-to-date)	2.2	8.1	30.0	12.2	8.6	30.9	43.7	361.8	236.6

United States geographic coverage: the 50 United States and District of Columbia.

Totals may not equal sum of components due to independent rounding.

¹Figures are for gross electricity generation, as opposed to net electricity generation. Net figures are generally less than gross figures by about 5 percent, which represents the energy consumed by the generating plants themselves.

²The United Kingdom assesses generation at 4- or 5-week intervals, rather than by calendar month.

R=Revised data. (s)=Less than 0.05 billion gross kilowatt-hours.

Source: • *Nucleonics Week*.

Definitions

Anthracite

A hard, black lustrous coal containing a high percentage of fixed carbon and a low percentage of volatile matter. Often referred to as hard coal. Includes metaanthracite and semianthracite. Conforms to ASTM Specification D388, for anthracite.

Average Retail Selling Price, Motor Gasoline

The average price of sales of motor gasoline to retail customers at service stations.

Bituminous Coal

A coal which is high in carbonaceous matter, having a volatility greater than anthracite coal and a calorific value greater than lignite. Often referred to in the United States as soft coal. Includes subbituminous coal and conforms to ASTM Specification D388 for bituminous and subbituminous coal.

Coke (Coal)

Bituminous coal from which constituents have been driven off by heat so that the fixed carbon and the ash are fused together. It is primarily used in blast furnaces for smelting ores, especially iron ore.

Crude Oil

A mixture of hydrocarbons that is in the liquid phase in natural underground reservoirs and remains liquid at atmospheric pressure after passing through surface separating facilities. Statistically, crude oil reported at refineries, in pipelines, at pipeline terminals, and on leases may include lease condensate.

Crude Oil Domestic Production

Domestic crude oil production is measured at the wellhead and includes lease condensate, which is a natural gas liquid recovered from lease separators or field facilities.

Crude Oil Refinery Input

Total crude oil (including lease condensate) input to crude oil distillation units and other units for processing.

Crude Oil Stocks

Stocks of crude oil and lease condensate held at refineries, in pipelines, at pipeline terminals, and on leases.

Distillate Fuel Oil

A light fuel oil distilled off during the refining process. Included are products known as No. 1 and No. 2 heating oils, diesel fuels, and No. 4 fuel oil, which conform to either ASTM Specification D396 or D975. These products are used primarily for space heating,

on- and off-highway diesel engine fuel (including railroad engine fuel), and electric power generation.

Distillate Fuel Oil Production

Total production of distillate fuel by refineries, measured at the refinery outlet. Relatively small quantities of distillate fuel are produced at natural gas processing plants, but these quantities are not included.

Electricity Production

Production at electric utilities only. Does not include industrial electricity generation.

Exploratory Well

A well drilled to 1.) find and produce oil or gas in an unproved area; 2.) find a new reservoir in a field previously found to be productive of oil or gas in another reservoir; or 3.) extend the limit of a known oil or gas reservoir.

Full Serve

Motor vehicle services are provided by an attendant, such as: pumping gas, washing windows, checking under the hood, checking tire pressure, etc.

Imports

Receipts into the 50 States and the District of Columbia, of foreign goods (including receipts of goods from U.S. territories and U.S. Foreign Trade Zones) which are classified by customs officials as "imports for consumption" or "withdrawals from bonded warehouse for consumption," including withdrawals from bonded warehouse for military offshore use and for bunkering of vessels or aircraft engaged in international commerce. Included are imports for the Strategic Petroleum Reserve. Excluded are receipts into bonded warehouse and into U.S. territories and U.S. Foreign Trade Zones.

Jet Fuel

Includes both naphtha-type and kerosene-type jet fuel meeting standards for use in aircraft turbine engines or meeting ASTM Specification D1655. Although most jet fuel is used in aircraft, some is used for other purposes, such as fuel for turbines to produce electricity.

Landed Cost

Includes the purchase price at the foreign port (or U.S. land border), transportation and insurance costs, wharfage and demurrage, brokerage fees, import fees and duties, license (ticket) fees, and transportation costs to the refinery. Averages computed based on major importers which account for an estimated 90 to 95 percent of total crude oil imports. Coverage includes United States and its territories.

Lease Condensate

A natural gas liquid recovered from gas well gas (including gas produced from crude oil reservoirs) in lease separators and, in some instances, field facilities. It consists primarily of pentanes and heavier hydrocarbons. Generally, it is blended with crude oil for refining.

Line Miles of Seismic Exploration

The distance along the earth's surface that is covered by seismic surveying.

Lignite

A brownish-black coal of low rank with high inherent moisture and volatile matter. It is also referred to as brown coal. It conforms to ASTM Specification D388 for lignite and is used almost exclusively for electric power generation.

Major Brand

Lundberg Survey, Inc., defines major brand as an integrated company that produces, refines, transports, and markets in Interstate Commerce under its own brand(s) in 10 or more states.

Maximum Dependable Capacity, Net

Represents the dependable main-unit net capacity of domestic reactors and generally varies throughout the year because the unit efficiency varies with seasonal cooling water temperature variations. Usually maximum dependable capacity is the highest net dependable output of the turbine generator during the most restrictive seasonal conditions (usually summer).

Motor Gasoline

A complex mixture of relatively volatile hydrocarbons, with or without small quantities of additives, that have been blended to form a fuel suitable for use in spark ignition engines. Included are leaded and unleaded products and all refinery products listed in ASTM Specification D439.

Motor Gasoline Production

Total production of motor gasoline by refineries, measured at the refinery outlet. Relatively small quantities of motor gasoline are produced at natural gas processing plants, but these quantities are not included.

Motor Gasoline, Regular Grade

Motor gasoline that has an antiknock designation of 2 for unleaded gasoline and 3 for leaded gasoline.

Motor Gasoline, Premium Grade

Volatile hydrocarbon mixture suitable for operation of an internal combustion engine and customarily marketed as "ethyl," "super," or equivalent classification.

Natural Gas

A mixture of hydrocarbon compounds and small quantities of various non-hydrocarbons existing in gaseous phase or in solution with crude oil in natural underground reservoirs at reservoir conditions.

Natural Gas Liquids

Those portions of reservoir gas which are liquefied at the surface in lease separators, field facilities, or natural gas processing plants. Natural gas liquids include natural gas plant liquids and lease condensate.

Natural Gas Plant Liquids

Those portions of natural gas that are liquefied at natural gas processing plants, including natural gasoline plants, fractionating, and cycling plants, and, in some instances, field facilities. Products obtained include ethane, liquefied petroleum gases (propane, butanes, propane-butane mixtures, ethane-propane mixtures), isopentane, natural gasoline, unfractionated streams, plant condensate and other minor quantities of finished products such as motor gasoline, special naphthas, jet fuel, kerosene and distillate fuel oil.

Natural Gas Production (Dry)

Derived by subtracting extraction loss from marketed production. It represents the amount of domestic natural gas production that is available to be marketed and consumed as a gas.

Petroleum

A generic term applied to oil and oil products in all forms, such as crude oil, lease condensate, unfinished oils, refined petroleum products, natural gas plant liquids, and nonhydrocarbon compounds blended into finished petroleum products.

Petroleum Coke

A solid residue; the final product of the condensation process in cracking. It consists of aromatic hydrocarbons very poor in hydrogen. Calcination of petroleum coke can yield almost pure carbon or artificial graphite suitable for production of carbon or graphite electrodes, structural graphite, motor brushes, dry cells, and similar productions.

Petroleum Products

Products obtained from the processing of crude oil, unfinished oils, natural gas liquids and other miscellaneous hydrocarbon compounds. Includes aviation gasoline, motor gasoline, naphtha-type jet fuel, kerosene-type jet fuel, kerosene, distillate fuel oil, residual fuel oil, ethane, liquefied petroleum gases, petrochemical feedstocks, special naphthas, lubricants, paraffin wax, petroleum coke, asphalt, road oil, still gas and other miscellaneous products.

Refined Petroleum Product Supplied

Total refined petroleum product supplied is the sum of each refined petroleum product supplied. For each product the amount supplied is derived by summing production, imports, and net withdrawals from primary stocks and subtracting exports.

Refiner Acquisition Cost

The cost to the refiner, including transportation and fees, of crude oil. The composite cost is the average of domestic and imported crude oil costs, and represents the amount of crude oil cost which refiners may pass on to their customers.

Residual Fuel Oil

The heavier oils that remain after the distillate fuel oils and lighter hydrocarbons are boiled off in refinery operations. Included are products known as No. 5 and No. 6 fuel oil that conform to ASTM Specification D396, heavy diesel oil, Navy Special Fuel Oil, Bunker C fuel oil, and acid sludge and pitch used as refinery fuels. Residual fuel oil is used for the production of electric power, space heating, vessel bunkering, and various industrial purposes.

Rotary Rig

A machine, used for drilling wells, that employs a rotating tube attached to a bit for boring holes through rock.

Self Serve

Motor vehicle services are not provided by attendants.

Strategic Petroleum Reserve

A plan developed to reduce the impact of interruption of imports of petroleum. Congress enacted legislation to establish a Strategic Petroleum Reserve in Title I, Part B of the Energy Policy and Conservation Act of 1975, Public Law 94-163.

Startup Test Phase of Nuclear Powerplant

A nuclear powerplant that has been licensed by the Nuclear Regulatory Commission to operate, but that is in the initial testing phase during which production of electricity may not be continuous. In general, when the electric utility is satisfied with the plant's performance, it formally accepts the plant from the manufacturer, and places it in "commercial operation" status. A request is then submitted to the appropriate utility rate commission to include the powerplant in the rate base calculation.

Stocks (Refined Petroleum Product)

Stocks held at refineries, bulk terminals, and pipelines (including pipeline fill) where the storage capacity exceeds 50,000 barrels. Stocks held at natural gas processing plants are not included as well as stocks held in secondary storage facilities, such as those held by jobbers, dealers, independent marketers, and consumers.

Synthetic Natural Gas (SNG)

A product resulting from the manufacture, conversion, or reforming of hydrocarbons which may be easily substituted for or interchanged with pipeline-quality natural gas.

Unaccounted for Crude Oil

Represents the arithmetic difference between the indicated demand for crude oil and the total disposition of crude oil. Indicated demand is the sum of crude oil production and imports less changes in crude oil stocks. Total disposition of crude oil is the sum of refinery input, exports of crude oil, crude oil burned as fuel, and crude oil losses.

Well

A hole drilled for the process of finding or producing crude oil or natural gas or providing services related to the production of crude oil or natural gas. Wells are classified as oil wells, gas wells, dry holes, stratigraphic tests, or service wells.

Explanatory Notes

1. Domestic production of energy includes production of coal (anthracite, bituminous, and lignite), crude oil and lease condensate, natural gas plant liquids, natural gas (dry), electric utility and industrial production of hydropower, and electricity generated from nuclear power, geothermal power, and wood and waste. The volumetric data were converted to approximate heat contents (Btu values) of these energy sources using conversion factors listed in Thermal Conversion Factors.

2. Domestic consumption of energy includes consumption of coal (anthracite, bituminous coal, and lignite), natural gas (dry), refined petroleum products supplied, electric utility and industrial production of hydropower, net imports of electricity produced from hydropower, net imports of coke made from coal, and electricity generated from nuclear power, geothermal power, and wood and waste. Approximate heat contents (Btu values) were derived using conversion factors listed in Thermal Conversion Factors.

3. U.S. energy imports include imports of bituminous coal, crude oil (including crude oil imported for the Strategic Petroleum Reserve), refined petroleum products, natural gas (dry), electricity produced from hydropower, and coke made from coal.

4. U.S. energy exports include bituminous coal and anthracite, crude oil, refined petroleum products, natural gas (dry), electricity produced from hydropower, and coke made from coal.

5. The Residential and Commercial Sector consists of housing units, non-manufacturing business establishments (e.g., wholesale and retail businesses), health and educational institutions, and government office buildings. The Industrial Sector is made up of construction, manufacturing, agriculture, and mining establishments. The Transportation Sector consists of both private and public passenger and freight transportation, as well as government transportation, including military operations. The Electric Utilities Sector is made up of privately- and publicly-owned establishments which generate electricity primarily for resale.

6. Degree-days are relative measurements of outdoor air temperature. Cooling degree-days are defined as deviations of the mean daily temperature at a sampling station above a base temperature equal to 65° F by convention. Heating degree-days are deviations of the mean daily temperature below 65° F. For example, if a weather station recorded a mean daily temperature of 78° F, cooling degree-days for that station would be 13 (and heating degree-days, 0). A weather station recording a mean daily temperature of 40° F would report 25 heating degree-days (and 0 cooling degree-days).

There are two degree-day data bases maintained by the National Oceanic and Atmospheric Administration. Weekly degree-day information is based on mean daily temperatures recorded at about 200 major weather

stations around the country. Monthly data are based on readings at more than 8,000 weather stations. The temperature information recorded at these weather stations is used to calculate statewide degree-day averages based on population. The State figures are then aggregated into Petroleum Administration for Defense (PAD) Districts and into the national average, also using a population weighting method.

Weekly weather reports are available much sooner than the monthly reports, and therefore the degree-day information published in the *Monthly Energy Review* is normally derived from the weekly source.

7. Domestic products supplied figures for natural gas liquids (NGL) in this publication do not include amounts utilized by refineries for blending purposes in the production of finished products, principally gasoline. Use of NGL at refineries is reported in a separate column. The production series cited in this publication shows both NGL produced at processing plants and liquefied gases produced at refineries (LRG). LRG produced at refineries is extracted from crude oil and hence, to avoid double counting, should not be included in calculations of total U.S. production of petroleum liquids. The stock series shown in this volume includes natural gas liquids held as stocks at both natural gas processing plants and at refineries and LRG held at refineries.

8. Domestic consumption of natural gas includes the quantities sold to consumers plus the gas used for plant and pipeline fuel, after the natural gas liquids have been extracted. All monthly consumption data are estimated. Marketed production of natural gas includes gross withdrawals from the ground less the quantities used for repressuring and the amount vented and flared, before the natural gas liquids have been extracted. Dry production of natural gas is the quantity remaining after the natural gas liquids have been extracted.

9. The Federal Energy Administration and Federal Power Commission began the coordinated collection and compilation of monthly underground storage information from all underground storage operators in the United States in October 1975. Initial storage information reported was for the month of September 1975. Comparable monthly information for total U.S. storage operations is not available for prior periods.

The total gas in storage is the total volume of gas (base gas plus working gas) in storage reservoirs as of the end of the month. Base gas is the volume of gas, including all native gas in place at the time of conversion to storage, needed as a permanent inventory to maintain adequate reservoir pressures and deliverability rates throughout the withdrawal season. Base gas includes the volumes which will not be recoverable upon termination of storage operations. Working gas is the volume of gas above the designated base gas level available for withdrawal.

10. Preliminary estimates of monthly coal production are based on the number of cars loaded at mines reported weekly to the Association of American

Railroads by Class I railroads. The amount of coal produced and shipped by other modes of transportation is derived by employing the ratio of railroad shipments to total production for the most recent period for which this ratio is known. Final monthly and annual coal production data are derived from the Energy Information Administration (EIA) "Coal Distribution Report" (Form EIA-6) and selected State agencies.

Domestic consumption data in this series approximate actual consumption. This is in contrast to domestic products supplied reported for petroleum products, which is a calculated value representing total disappearance from primary supplies.

The data sources used to compute the monthly coal consumption estimates from 1978 forward for the "Other Industrial" (i.e. Industrial except coke plants) sector are:

- (a) Form EIA-3, "Monthly Fuel Consumption Report—Manufacturing Plants."
- (b) Form EIA-6, "Bituminous Coal and Lignite Distribution Report."

The basic assumption used in deriving a quarterly estimate for coal consumption is that consumption is equal to beginning stocks plus receipts minus ending stocks. In terms of an equation, consumption can be expressed as

$$C = S_B + R - S_E \quad (1)$$

where

- S_B = beginning stocks
- R = receipts
- S_E = ending stocks.

The change in stocks ($S_B - S_E$) can be denoted by ΔS . From equation (1), consumption is

$$C = \Delta S + R \quad (2)$$

The Form EIA-6 provides complete coverage of the "Other Industrial" sector. The quarterly receipts are obtained from this form.

The Form EIA-3 does not provide total coverage of the "Other Industrial" sector, however it does contain stock change information. The impact of the stock change in the portion of the sector that is not covered by the Form EIA-3 is not substantial.

Given the estimated quarterly consumption for the "Other Industrial" sector (C), the monthly consumption for the sector (C_M) can be estimated for each month in the quarter as

$$C_M = (C_{M3}/C_3) \cdot C \quad (3)$$

where

- C_{M3} = the monthly consumption in the "Other Industrial" sector as reported on Form EIA-3.

- C_3 = the quarterly consumption in the "Other Industrial" sector as reported on Form EIA-3.

Equation (3) insures that a) the monthly consumption estimates (C_M) sum to C over the quarter and b) the estimated seasonality for the C_M 's is the same as that for the C_{M3} 's.

11. The units used to describe power generation at nuclear plants are based on the watt, a unit of power. (Power is energy produced per unit of time.) Nuclear power plants may have more than one type of power rating, including:

- (a). Design Capacity or Design Electrical Rating (DER)—The nominal net, electrical output of the unit specified by the utility and used for the purpose of plant design.
- (b). Maximum Dependable Capacity (MDC), GROSS—The gross electrical output as measured at the output terminals of the turbine generator during the most restrictive seasonal conditions (usually summer).
- (c). Maximum Dependable Capacity, NET—The gross maximum dependable capacity less the nominal station service load. (The nominal station service load for a nuclear plant is about 5 percent of its gross generation.)
- (d). Thermal Capacity—The rate of heat production by the reactor core. The Nuclear Regulatory Commission authorizes a maximum thermal power rating for U.S. reactors.

12. The actual domestic average price represents the average price at which all domestic crude oil is purchased. Prior to February 1976, the domestic crude oil wellhead price represented an estimate of the average of posted prices; after February 1976, the wellhead price represents an average of first sale prices.

13. Beginning with January 1981, refiner acquisition costs of crude oil are from data collected on Form EIA-14, the "Refiners' Monthly Cost Report." These prices were previously published from data collected on Form ERA-49, the "Domestic Crude Oil Entitlements Program Refiners Monthly Report." The Form ERA-49 was discontinued with the decontrol of crude oil on January 28, 1981. Crude oil purchases and costs are defined for Form EIA-14 in accordance with conventions used for Form ERA-49. Also, the respondents for the two forms are essentially the same. However, due to possible different interpretations of the filing requirements and a different method for handling prior period adjustments, care must be taken in comparing the data collected on the two forms.

The costs previously published for January 1981, viz., \$30.87 per barrel for domestic crude, \$37.59 per barrel for imported, and \$33.40 per barrel for the composite, were from data collected on Form ERA-49. The revised costs are from data collected on Form EIA-14. The January prices are being replaced because the Form ERA-49 data were based on only the 27 days of controlled activity, and because there was considerable recertification of oil which occurred in January.

The refiner acquisition cost of crude oil is the average price paid by refiners for crude oil booked into their refineries in accordance with accounting procedures generally accepted and consistently and historically applied by the refiners concerned. Domestic crude oil is that oil produced in the United States or from the outer continental shelf as defined in 43 USC Section 1331. Imported crude oil is either that oil reported on Form ERA-51, the "Transfer Pricing Report," or any crude oil which is not domestic oil.

Crude oil costs and volumes reported on Form ERA-49 excluded unfinished oils but included Strategic Petroleum Reserve (SPR). Crude oil costs and volumes reported on the FEA Form P110-M-1 included unfinished oils but excluded SPR. Imported averages derived from Form ERA-49 exclude oil purchased for SPR, whereas the composite averages derived from Form ERA-49 include SPR. None of the prices derived from Form EIA-14 include either unfinished oils or SPR.

14. FOB literally means "Free on Board." It denotes a transaction whereby the seller makes the product available with an agreement on a given port at a given price; it is the responsibility of the buyer to arrange for the transportation and insurance.

15. The landed cost of imported crude oil from selected countries does not represent the total cost of all imported crude. Prior to March 1975, imported crude costs to U.S. company-owned refineries in the Caribbean were not included in the landed cost, and costs of crude oil from countries which export only small amounts to the United States were also excluded. Beginning in March 1975, however, coverage was expanded to include U.S. company-owned refineries in the Caribbean. Landed costs do not include supplemental fees.

16. The motor gasoline prices are calculated monthly by the BLS in conjunction with the construction of the Consumer Price Index (CPI). For the period 1974 through 1978 prices were collected in 56 urban areas. For the period 1978 forward, prices are collected from a new sample of service stations in 85 urban areas selected to represent all urban consumers — about 80 percent of the total U.S. population. The service stations

are selected initially, and on a replacement basis, in such a way that they represent the purchasing habits of the CPI population. Service stations in the current sample include those providing all types of service (i.e., full-, mini-, and self-serve).

17. The survey and method used to derive data for March 1976 forward differ from those used for prior months. Data for January 1974 through February 1976 are derived from a survey of distributors, and prices and margins are computed as unweighted averages. The average distributor purchase price and average dealer margin for March 1976 forward are for distributors only, whereas the average selling price includes both refiners and distributors. Data for March 1976 forward are computed as sales weighted averages.

18. The U.S. Department of Energy Regions are defined as follows:

- Region 1 — Maine, New Hampshire, Vermont, Massachusetts, Connecticut, Rhode Island;
- Region 2 — New York, New Jersey, Puerto Rico, Virgin Islands;
- Region 3 — Pennsylvania, Maryland, West Virginia, Virginia, District of Columbia, Delaware;
- Region 4 — Kentucky, Tennessee, North Carolina, South Carolina, Mississippi, Alabama, Georgia, Florida, Canal Zone;
- Region 5 — Minnesota, Wisconsin, Michigan, Illinois, Indiana, Ohio;
- Region 6 — Texas, New Mexico, Oklahoma, Arkansas, Louisiana;
- Region 7 — Kansas, Missouri, Iowa, Nebraska;
- Region 8 — Montana, North Dakota, South Dakota, Wyoming, Utah, Colorado;
- Region 9 — California, Nevada, Arizona, Hawaii, Trust Territory of the Pacific Islands, American Samoa, Guam;
- Region 10 — Washington, Oregon, Idaho, Alaska.

19. Residual fuel oil prices include fuel oil No. 4, No. 5, No. 6, crude oil and topped crude fuel oil prices. The weighted average for all fossil fuels includes both residual fuel oil prices and light oil (fuel oil No. 2, kerosene, and jet fuel) prices.

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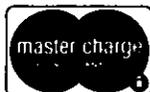
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Conversion Factors

Approximate Heat Content of Various Fuels		1973	1974	1975	1976	1977	1978	1979	1980-81†
Anthracite									
Production	Thousand Btu/short ton	23,170	22,560	23,390	22,770	23,180	23,520	23,590	23,590
Imports and Exports	Thousand Btu/short ton	25,400	25,400	25,400	25,400	25,400	25,400	25,400	25,400
Consumption, average	Thousand Btu/short ton	22,710	21,950	21,740	22,150	22,710	22,970	22,700	22,700
Electric utility consumption	Thousand Btu/short ton	17,920	17,200	17,060	17,530	17,240	17,100	17,450	17,380
Non-utility consumption	Thousand Btu/short ton	24,340	23,750	23,650	23,840	24,990	25,170	25,200	24,690
Bituminous coal and lignite									
Production	Thousand Btu/short ton	24,010	23,730	23,200	23,150	22,700	22,430	22,590	22,590
Imports	Thousand Btu/short ton	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000
Exports	Thousand Btu/short ton	27,000	27,000	27,000	27,000	27,000	27,000	27,000	27,000
Consumption, average	Thousand Btu/short ton	23,650	23,070	22,800	22,750	22,330	22,140	22,200	22,200
Electric utility consumption	Thousand Btu/short ton	22,260	21,800	21,660	21,690	21,480	21,280	21,380	21,310
Non-utility consumption	Thousand Btu/short ton	26,840	26,120	25,810	25,870	25,130	25,070	25,060	25,970
Coal Coke	Thousand Btu/short ton	26,000	26,000	26,000	26,000	26,000	26,000	26,000	26,000
Crude petroleum¹									
Production	Thousand Btu/barrel	5,800	5,800	5,800	5,800	5,800	5,800	5,800	5,800
Imports	Thousand Btu/barrel	5,817	5,827	5,821	5,808	5,810	5,802	5,810	5,810
Exports	Thousand Btu/barrel	5,800	5,800	5,800	5,800	5,800	5,800	5,800	5,800
Crude petroleum and products									
Imports, average	Thousand Btu/barrel	5,897	5,884	5,858	5,856	5,834	5,839	5,810	5,810
Exports, average	Thousand Btu/barrel	5,752	5,774	5,748	5,745	5,797	5,808	5,832	5,832
Petroleum products									
Consumption, average	Thousand Btu/barrel	5,515	5,504	5,494	5,504	5,518	5,519	5,494	5,494
Residential and Commercial	Thousand Btu/barrel	5,686	5,681	5,655	5,661	5,664	5,682	5,661	5,633
Industrial	Thousand Btu/barrel	5,325	5,304	5,304	5,336	5,368	5,369	5,338	5,380
Transportation	Thousand Btu/barrel	5,398	5,396	5,395	5,400	5,404	5,412	5,415	5,409
Electric Utility	Thousand Btu/barrel	6,223	6,215	6,229	6,235	6,231	6,227	6,245	6,246
Imports	Thousand Btu/barrel	5,983	5,959	5,935	5,980	5,908	5,955	5,811	5,811
Exports	Thousand Btu/barrel	5,752	5,773	5,747	5,743	5,796	5,814	5,864	5,864
LPG Consumption Average²	Thousand Btu/barrel	3,746	3,730	3,715	3,711	3,677	3,669	3,680	3,680
Natural gas plant liquid production	Thousand Btu/barrel	4,049	4,011	3,984	3,964	3,941	3,925	3,955	3,955
Natural gas, dry									
Production and consumption	Btu/cubic foot	1,021	1,024	1,021	1,020	1,021	1,019	1,021	1,021
Electric utility consumption	Btu/cubic foot	1,024	1,022	1,026	1,023	1,029	1,034	1,034	1,030
Non-utility consumption	Btu/cubic foot	1,020	1,024	1,020	1,019	1,019	1,016	1,018	1,019
Imports	Btu/cubic foot	1,026	1,027	1,026	1,025	1,026	1,030	1,037	1,037
Exports	Btu/cubic foot	1,023	1,016	1,014	1,013	1,013	1,013	1,013	1,013
Natural gas, wet									
Production	Btu/cubic foot	1,093	1,097	1,095	1,093	1,093	1,088	1,092	1,092
Hydropower³	Btu/kWh	10,389	10,442	10,406	10,373	10,435	10,435	10,435	10,435
Nuclear power³	Btu/kWh	10,903	11,161	11,013	11,047	10,769	10,769	10,769	10,769
Geothermal power³	Btu/kWh	21,674	21,674	21,611	21,611	21,611	21,611	21,611	21,611
Electricity consumption	Btu/kWh	3,412	3,412	3,412	3,412	3,412	3,412	3,412	3,412

Refined Petroleum Products: Thousand Btu/barrel

Asphalt	6,636
Aviation gasoline	5,048
Butane	4,326
Butane-propane mixture ⁴	4,130
Distillate fuel oil	5,825
Ethane	3,082
Ethane-propane mixture ⁵	3,308
Isobutane	3,974
Jet fuel—kerosene type	5,670
Jet fuel—naphtha type	5,355
Kerosene	5,670
Lubricants	6,065
Motor gasoline	5,253
Natural gasoline	4,620
Petrochemical feedstocks	
Naphtha 400°	5,248
Other oils over 400°	5,825
Still gas	6,000
Petroleum coke	6,024
Plant condensate	5,418
Propane	3,836
Residual fuel oil	6,287
Road oil	6,636
Special naphtha	5,248
Still gas	6,000
Unfinished oils	5,825
Wax	5,537
Miscellaneous	5,796

Units of Measure

Weight

1 metric ton	contains	1,000 kilograms or 2,204.62 pounds
1 long ton	contains	2,240 pounds
1 short ton	contains	2,000 pounds

Conversion Factors for Crude Oil (Average Gravity)

1 barrel	contains	42 gallons
1 barrel	contains	0.136 metric tons (0.150 short tons)
1 metric ton	contains	7.33 barrels
1 short ton	contains	6.65 barrels

Conversion Factors for Uranium

1 short ton (U ₃ O ₈)	contains	0.769 metric tons of uranium
1 short ton (UF ₆)	contains	0.613 metric tons of uranium
1 metric ton (UF ₆)	contains	0.676 metric tons of uranium

¹ Includes lease condensate

² LPG Consumption Average is the annual weighted average of the LPG product supplied components: ethane, ethylene, propane, propylene, butane, butylene, butane-propane mixture, ethane-propane mixture, and isobutane.

³ There is no generally accepted practice for measuring hydropower thermal conversion rates. The hydropower factors on this page are the prevailing heat rate factors at fossil fuel steam electric powerplants. By using the heat rate factor, it is possible to evaluate fossil fuel requirements for replacing hydropower production during periods of drought. Furthermore, it allows for better comparisons with certain other countries such as Norway where hydropower is the principal means for producing electricity. Similarly, the nuclear power and geothermal power conversion factors represent the thermal conversion equivalent of the uranium and geothermal steam consumed at powerplants. The heat content of a kilowatt-hour of electricity produced, regardless of the generation process, is 3,412 Btu per kilowatt-hour. It is not possible to determine the hydroelectric powerplant efficiency by using these factors. The efficiency factor for hydroelectric powerplants is derived by multiplying generation efficiency by turbine efficiency. The average hydroelectric powerplant efficiency in the United States is 86 percent while average generation efficiency is 97 percent and average turbine efficiency is 89 percent.

⁴ 60 percent butane and 40 percent propane.

⁵ 70 percent ethane and 30 percent propane.

† Preliminary data.

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